DOCUMENT RESUME

ED 061 170 SP 005 614

AUTHOR	DeVault, M. Vere, Ed. And Others
TITLE	Mental Health and Teacher Education: The Wisconsin Project.
INSTITUTION	Wisconsin Univ., Madison. School of Education.
PUB DATE	Sep 67
NOTE	272p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	Classroom Communication; *Elementary Education; *Mental Health; *Student Teachers; *Teacher Behavior; *Teacher Education

ABSTRACT

The principle objective of this study was the investigation of the impact of teacher behavior on the mental health of elementary school children. Three questions influenced the design of the research: 1) What is the influence of different instructional approaches in a teacher-training program upon the perceptions and verbal communication behavior of student teachers? 2) What kinds of communication behavior did the teacher-subjects reveal at the beginning of the study, and what changes occurred in this behavior during the period of the study? and 3) What perceptions and patterns of teacher communication have a measurable influence upon mental health of pupils in the classroom? The research subjects were 61 teacher education students at junior level, 51 at senior level, and 36 first-year teachers. Conclusions indicated that only modest differences were found in the observed behaviors of teachers consistently exposed to one of three different instructional approaches; subjects gradually asked for less information, gave more information, and decreased their expression of both positive and negative feelings as they developed their teaching skills; and the personal dimension of teachers' communication was the only dimension consistently related to various measures of school adjustment. Appendixes include the instruments used and means and analysis of variance. (MBM)

ED 061170

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

MENTAL HEALTH AND TEACHER EDUCATION: THE WISCONSIN PROJECT

Edited by

M. Vere DeVault,

Dan W. Andersen,

John Withall

The research reported herein was performed persuant to Grant 2M-6624, National Institute of Mental Health.

Department of Curriculum and Instruction
School of Education
The University of Wisconsin
Madison, Wisconsin

September, 1967

SP 005 614

PREFACE

Talk about innovation in American education is widespread. Implementation of innovations is less widespread. Nonetheless, new patterns of classroom organization can be found in schools of every State in the Union. The content which should be taught in our schools is being questioned and tentative answers to these questions are being sought in experimental programs. The role of the classroom teacher in particular is under close scrutiny.

The impact of discussion and implementation of innovation is to challenge the traditional in school practice. This is good since challenge forces re-examination of long-accepted means and methods. Assistance in such re-examination is a role well-suited to research. Thus, educators look to research for assistance in the identification of the values inherent in proposed changes. More earnestly than ever before, they are also looking to research for evidence of the values inherent in the old. For decades teachers and educators seemed to ignore research because there was little reason to believe that any kind of theoretical discovery would significantly alter the general nature of schooling in our classrooms. Today, changes are being proposed and implemented as a result of so many forces in our society that the techniques of careful research represent the best hope of identifying and separating the good and the bad. The importance of making the best possible decisions is apparent: the education of everyone in our country will be affected by the programs which survive the innovative push and gain permanence. Research is needed which can be of assistance in determining what in the old should survive and what elements of the new should find "tentative" permanence in the classrooms of tomorrow. The research reported here is restricted to the investigation of a number of problems associated with the impact that differing styles of teacher-pupil communication has on mental health in the elementary school. For instance, it is a study in which ample evidence is presented to indicate that teachers in our schools display a wide variety of communication patterns and that these differing styles do have varying impact on learners in the classroom. Certain styles of communication do result in pupil perceptions which we have usually associated with good mental health whereas other styles seem to be associated with poor mental health. These findings seem to imply that as new roles are defined for teachers, care must be taken not to lose the value that appropriate teacher-pupil communication has on mental health in the classroom.

The study was essentially an exploratory pilot project. It was more than that term usually implies, however, in that it was a longitudinal study which encompassed the last two years of undergraduate teacher preparation and the first year of full-time teaching. It grew out of the interest and concerns of many of our faculty members at The University of Wisconsin.

It was financed by a grant from the National Institute of Mental Health. This has been amply supplemented by funds from The National Science Foundation through the University of Wisconsin Computer Center, and from the School of Education.

The principal investigators who initially proposed the study were Professors John W. M. Rothney, Carl R. Rogers, and the late Virgil E. Herrick. The Director of the project during its first three years was John Withall, who in 1962 became director of Peace Corps activities in the Ivory Coast. The direction of the project at that time passed to M. Vere DeVault. The number of people who have contributed significantly to the project is too large to be enumerated here. A list of all salaried staff is included in Appendix G. Special mention must be made, however, of the work of Wilbur W. Lewis and John M. Newell who worked closely with Professor Withall during the first years of the study and of Frank B. May and Dan W. Andersen whose assistance to Professor DeVault was of much value during the last half of the study.

M. Vere DeVault
Dan W. Andersen
John Withall

Madison
September 1, 1967

TABLE OF CONTENTS

Page

PREFACE i

LIST OF TABLES ix

LIST OF FIGURES xiii

Chapter

I. INTRODUCTION 1
John Withall and M. Vere DeVault

Mental Health in the Classroom 1
Mental Health and Teacher Education 5
Major Problems of the Study 7
Mental Health and Education 8

II. METHODS OF THE STUDY 10
Dan W. Andersen

Background 10
Design of the Study 10
Population 11
Procedure of the Study 13
Instructional Approach: The Independent Variable 13
Communication Behavior of Teacher-Subjects in the Classroom: The Intervening Variable . . . 14
Attitudes and Perceptions of Pupil-Subjects: The Dependent Variable 15
The Child Report: Teacher Communication Scale (Actual-Ideal) 16
The Child Report: Peer Behavior Characteristics Scale 17
The Child Report: Children's Behavior Characteristics Scale (Actual-Ideal) 19
The Child Report: School Attitude Scale 20

III. THE THREE INSTRUCTIONAL APPROACHES 21
Morey L. Appell

The Concept-Centered Approach 23
History and Backdrop 23
Goals 24
Theoretical Frame of Reference 24
Learning Situation Rationale 25
Description of Instructor Classroom Behavior . . 27

Chapter Page

A Case Study Approach . . . 37
  History and Backdrop . . . 37
  Goals . . . 39
  Theoretical Frame of Reference . . . 40
  Learning Situation Rationale . . . 40
  Description of Instructor Classroom Behavior . . . 41
The Learner-Centered Approach . . . 54
  History and Backdrop . . . 54
  Goals . . . 55
  Theoretical Frame of Reference . . . 56
  Learning Situation Rationale . . . 61
  Description of Instructor Classroom Behavior . . . 61
Summary . . . 77
Bibliography . . . 79

IV. TEACHERS' COMMUNICATION BEHAVIORS . . . 81
Patricia W. Cautley and Dan W. Andersen

Method of Recording Communication in the Classroom . . . 85
Method of Analyzing Communication in the Classroom . . . 86
Some Influences in the Development of a Category System . . . 89
The Fourteen and the Extended Category Systems for Analyzing Verbal Interaction . . . 90
  Fourteen Category System . . . 90
  Extended Category System . . . 93
Unit of Analysis . . . 99
Summary . . . 101
Bibliography . . . 102

V. THE FOURTEEN CATEGORY SYSTEM OF INTERACTION ANALYSIS . . . 103
John Withall, M. Vere DeVault and John A. Zahorik

Verbal Communication Behavior of Three University Professors, Each Using a Different Teaching Approach . . . 103
  The Problem . . . 103
  Procedure . . . 106
  Results . . . 106
  Conclusions . . . 107
The Adoption by Student Teachers of the Verbal Communication Behavior of Their Instructors . . . 109
  The Problem . . . 109
  Procedure . . . 110
  Results . . . 110
  Conclusions . . . 111

Chapter Page

The Variability Over Time of the Verbal Communication Behavior of Student Teachers 113
  The Problem 113
  Procedure 113
  Results 113
  Conclusions 114
The Relationship of Teacher Verbal Communication Behavior to Selected Aspects of Pupil Perception 114
  The Problem 114
  Procedure 116
  Results 116
Summary 122

VI. THE EXTENDED CATEGORY SYSTEM OF INTERACTION ANALYSIS . 123
M. Vere DeVault, Frank B. May and Jenny R. Armstrong

Variability in Communication 124
  Variability Among Categories 124
  Variability Over Time 124
  Variability by Approach 130
Relationship of Teacher Communication to Pupil Perception 138
Summary 143

VII. A METHOD OF ANALYZING PUPIL-TEACHER INTERACTION . . . 144
Patricia W. Cautley

Description of Methods 146
Categories of Pupil Verbalizations 147
Categories of Teacher Response to Pupil Verbalization 148
  Source of Data 149
  Agreement in Categorization 150
  Applications of this Method of Analysis 150
Findings 151
  Predictions to be Tested 151
  Trends in the Total Group of Subjects 153
  Testing the Predictions 164
    Prediction 1 164
    Predictions 2 and 3 164
Summary and Conclusions 167
Bibliography 172

VIII. PUPILS' PERCEPTIONS OF TEACHER COMMUNICATION 173
Dorothy Sawin and M. Vere DeVault

Procedures 173
Dimensions of Teacher Communication 174

Chapter Page

Development of Factor Scores 178
Correlational Analyses 178
Conclusions and Discussion 180

IX. PUPIL PERCEPTIONS OF TEACHER, PEERS, SELF, AND SCHOOL 182
Dan W. Andersen and Michael Bohleber

Purpose 182
Background 182
Perceptual Referents of the Study 184
Procedures 184
  Population 184
  Data Collection Procedures 185
  Description of Instruments 185
    My Teacher 185
    Factor I. Academic Orientation 186
    Factor II. Personal Orientation 186
    Factor III. Structure Orientation 186
    Factor IV. Affective Orientation 186
    Satisfaction with Teacher Communication 186
    Classmates 188
    About Me 188
    About School 189
Discussion of Findings 189
  Pupils' Perceptions of Teacher Communication
    Behavior 189
    Academic Orientation 189
    Personal Orientation 189
    Structure Orientation 192
    Affective Orientation 192
    Communication Satisfaction 192
  Pupils' Perceptions of Classroom Peers 192
    Socially Acceptable 192
    Aggressive 192
    Withdrawn 198
  Pupils' Perceptions of Self 198
    Socially Acceptable 198
    Aggressive 198
    Withdrawn 198
    Self-Satisfaction 198
  School Attitudes 204
Summary of Results 204
  Sex 204
  Grade Level 207
  Observation Period 207
Bibliography 208

Chapter Page

X. SUMMARY AND IMPLICATIONS 209
M. Vere DeVault, Dan W. Andersen, John Withall, and Eleanore Larson

Mental Health and Communication 209
Purpose and Design of the Study 210
  Population of the Study 212
Summary of Conclusions 212
Implications 215
  Implications for Classroom Teachers 216
  Implications for Teacher Education 217
  Implications for Research 218

APPENDIX A

Child Report: Teacher Communication Scale (Actual) 221
Child Report: Teacher Communication Scale (Ideal) 223

APPENDIX B

Child Report: Peer Behavior Characteristics Scale 225

APPENDIX C

Child Report: Children's Behavior Characteristics Scale (Actual) 227
Child Report: Children's Behavior Characteristics Scale (Ideal) 229

APPENDIX D

Child Report: School Attitude Scale 231

APPENDIX E

Means and Analysis of Variance for Proportion of Use of Category 1 (Asks for Information) Scores by Thirty-Three Teachers 233
Means and Analysis of Variance for Proportion of Use of Category 2 (Seeks or Accepts Direction) Scores by Thirty-Three Teachers 234
Means and Analysis of Variance for Proportion of Use of Category 3 (Asks for Opinion for Analysis) Scores by Thirty-Three Teachers 235

Page

Means and Analysis of Variance for Proportion of Use of Category 4 (Listens) Scores by Thirty-Three Teachers 236
Means and Analysis of Variance for Proportion of Use of Category 5 (Gives Information) Scores by Thirty-Three Teachers 237
Means and Analysis of Variance for Proportion of Use of Category 6 (Gives Suggestions) Scores by Thirty-Three Teachers 238
Means and Analysis of Variance for Proportion of Use of Category 7 (Gives Directions) Scores by Thirty-Three Teachers 239
Means and Analysis of Variance for Proportion of Use of Category 8 (Gives Opinion) Scores by Thirty-Three Teachers 240
Means and Analysis of Variance for Proportion of Use of Category 9 (Gives Analysis) Scores by Thirty-Three Teachers 241
Means and Analysis of Variance for Proportion of Use of Category 10 (Shows Positive Feeling) Scores by Thirty-Three Teachers 242
Means and Analysis of Variance for Proportion of Use of Category 11 (Inhibits Communication) Scores by Thirty-Three Teachers 243
Means and Analysis of Variance for Proportion of Use of Category 12 (Shows Negative Feeling) Scores by Thirty-Three Teachers 244
Means and Analysis of Variance for Proportion of Use of Category 13 (No Communication) Scores by Thirty-Three Teachers 245
Means and Analysis of Variance for Proportion of Use of Category 14 (Perfunctory Agreement or Disagreement) Scores by Thirty-Three Teachers . . 246

APPENDIX F Detailed Description of Categories Used in Description of Pupil-Teacher Interaction

General Instructions 247
Categories of Pupil Verbalization 248
Categories of Teacher Responses to Pupil Verbalizations 251

APPENDIX G

Project Associates and Research Assistants 254
Secretarial Staff 254

APPENDIX H Wisconsin Teacher Education Research Project Papers 255

LIST OF TABLES

Table Page

1. Distribution and Attrition of Teacher-Subjects by Sequence and Approach. 12

2. Distribution of Full-Time Teacher-Subjects By Area and Approach. 12

3. Distribution of Pupil-Subjects and Teacher-Subjects by Approach and Grade Level. 13

6. Evolution of Category Systems for Analyzing Verbal Interaction 87

7. Availability of Data for Categories for Analyzing Verbal Interaction. 89

8. Proportional Use of Categories of Communication Behavior by University Instructors. 108

9. Mean Proportional Use of Fourteen Categories of Communication Behavior By Thirty-Three Teachers . . 112

10. Mean Proportional Use of Fourteen Categories of Communication Behavior By Thirty-Three Teachers During Six Observations 115

11. Significant Correlation Coefficients Between Fourteen Teacher Communication Variables and Nine Pupil Perception Variables of Thirty-Three Teachers and Class of Pupils 119

12. Analysis of Variance of Frequencies for Thirty-Six Teachers for Five Observations and Thirty-Nine Categories 125

13. Mean Adjusted Frequencies of Thirty Categories of Communication Behavior for Thirty-Three Teachers By Approach 126

14. Mean Adjusted Frequencies of Thirty Categories of Communication Behavior for Thirty-Three Teachers By Observation Period 128

Table Page

15. Factors Extracted from the Image Analysis of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Observation Number One 131

16. Factors Extracted from the Image Analysis of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Observation Number Two 132

17. Factors Extracted from the Image Analysis of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Observation Number Three 133

18. Factors Extracted from the Image Analysis of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Observation Number Four. 134

19. Factors Extracted from the Image Analysis of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Observation Number Five. 135

20. Factors Extracted from the Intercorrelations of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers During Five Combined Observations 136

21. Summary of Factors Extracted from the Image Analyses of Thirty Categories of Communication Behavior as Used by Thirty-Six Teachers Over Five Observation Periods. 137

22. Mean Class Pupil Perception Scores for Thirty-Three Teachers Grouped by Communication Factor Scores Combined for Rounds 1, 2, and 3, and Used as Independent Variables 139

23. Analysis of Variance for Pupil Perception of Self, Peers, and School with Teacher Communication Factor Scores Combined for Rounds 1, 2, and 3, and Used as the Independent Variables . 141

24. Means and Standard Deviations of the Eight Categories of Pupil Verbalizations at Five Different Observation Times. 154

25. Means and Standard Deviations of Eleven Categories of Teacher Responses to Pupil Verbalizations at Five Different Observation Times 155

26. Correlations Between Certain Pupil Verbalizations and Teachers' Responses to Them 157

27. Correlations Between Pupil Verbalizations Occurring at the Time of Observation 1 with those Occurring at the Time of Each Subsequent Observation. 160

Table Page

28. Correlations Between Pupil Verbalizations Occurring at the Time of Observation 2 with those Occurring at the Time of Each Subsequent Observation. 160

29. Correlations Between Pupil Verbalizations Occurring at the Time of Observation 3 with those Occurring at the Time of Each Subsequent Observation. 161

30. Correlations Between Teacher Responses Occurring at the Time of Observation 1 with those Occurring at the Time of Each Subsequent Observation. 162

31. Correlations Between Teacher Responses Occurring at the Time of Observation 2 with those Occurring at the Time of Each Subsequent Observation. 162

32. Correlations Between Teacher Responses Occurring at the Time of Observation 3 with those Occurring at the Time of Each Subsequent Observation. 163

33. Distribution of Pupil Verbalizations Among the Various Categories in Classrooms Taught by Differently Trained Teachers. . . . 165

34. Distribution of Teacher Responses to Pupil Verbalizations by Differently Trained Teachers. 168

35. Loadings on the Highest Four Factors for the Twelve Items on the Child Report: Teacher Communication Scale (Actual) for Three Rounds. 175

36. Factors Derived from Rotated Factor Matrix of the Twelve Items on the Child Report: Teacher Communication Scale (Actual). 177

37. Correlations Among Perceived Teacher Communication Mean Factor Scores and Pupil Perceptions of Self, Peers, and School for Thirty-Three Classes at the Third Observation Period 179

38. Distribution of Pupil Population by Grade and Sex. 185

39. Rotated Factor Matrix of the Twelve Items on the My Teacher Test. 187

40. Means and Analysis of Variance for Perceived Teacher Communication (Academic Orientation) for 432 Elementary Pupils by Sex, Grade, and Round 190

Table Page

41. Means and Analysis of Variance for Perceived Teacher Communication (Personal Orientation) for 432 Elementary Pupils by Sex, Grade, and Round 191

42. Means and Analysis of Variance for Perceived Teacher Communication (Structure Orientation) for 432 Elementary Pupils by Sex, Grade, and Round 193

43. Means and Analysis of Variance for Perceived Teacher Communication (Affective Orientation) for 432 Elementary Pupils by Sex, Grade, and Round 194

44. Means and Analysis of Variance for Perceived Teacher Communication (Satisfaction) for 432 Elementary Pupils by Sex, Grade, and Round 195

45. Means and Analysis of Variance for Perceived Peer Report (Socially Acceptable) for 432 Elementary Pupils by Sex, Grade, and Round 196

46. Means and Analysis of Variance for Perceived Peer Report (Aggressive) for 432 Elementary Pupils by Sex, Grade, and Round. 197

47. Means and Analysis of Variance for Perceived Peer Report (Withdrawn) for 432 Elementary Pupils by Sex, Grade, and Round. 199

48. Means and Analysis of Variance for Perceived Self Report (Socially Acceptable) for 432 Elementary Pupils by Sex, Grade, and Round 200

49. Means and Analysis of Variance for Perceived Self Report (Aggressive) for 432 Elementary Pupils by Sex, Grade, and Round. 201

50. Means and Analysis of Variance for Perceived Self Report (Withdrawn) for 432 Elementary Pupils by Sex, Grade, and Round. 202

51. Means and Analysis of Variance for Perceived Self Report (Satisfaction) for 432 Elementary Pupils by Sex, Grade, and Round. 203

52. Means and Analysis of Variance for School Attitude Scores for 432 Elementary Pupils by Sex, Grade, and Round. 205

53. Significant Main Effects Reported in Summary of Analyses of Variance Problems for 432 Elementary Pupils by Sex, Grade, and Round 206

LIST OF FIGURES

Figure Page

1. Sample Items on the Child Report: Teacher Communication Scale (Actual-Ideal). 16

2. Sample Items from the Child Report: Peer Behavior Characteristics Scale 18

3. Sample Items from the Child Report: Children's Behavior Characteristics Scale (Actual-Ideal) . . . 19

4. Sample Items from the Child Report: School Attitude Scale 20

5. Schematic Model of the Communication Process. 83

6. Matrix Tabulations from Three Different Classrooms. . 152

CHAPTER I

INTRODUCTION

John Withall and M. Vere DeVault

Mental Health in the Classroom

It has been said that the primary function of schools is to help the learners do better and more efficiently what they are going to be called on to do as citizens, consumers, family participants, and recreating human beings. In order to prepare learners for their current responsibilities and tasks and to lay the groundwork for skills, attitudes, and insights which they can use in subsequent years, teachers are expected to facilitate learning through the best strategies they can muster.

The conditions of life and work, as well as the political and economic issues that will face Americans in five, ten, or twenty-five years, cannot be specified now. The role of the teacher in preparing learners for this uncertain future, however, remains one of helping children learn facts, helping them to acquire skills of inquiry, and teaching them to approach learning and all other life situations in an emotionally appropriate, "mentally healthy" way.

The focus of this study is an inquiry into "mental health" in the classroom. Trow,[1] Thelen,[2] and the authors of the 1960 Yearbook of the National Society for the Study of Education[3] have summarized much that has been said about the impact of a group leader on each individual's learning activity. They indicate that the teacher has many roles to play, including that of clarifier, mediator, and counselor. Carl Rogers[4] has postulated the need for positive, unconditional regard as a major strategy in facilitating learning not only in the therapeutic situation but also in the classroom. It has long been asserted by Allport and others that there is nothing that hinders problem solving and learning so surely as a feeling of psychological threat. If this be so, it would seem that a major responsibility of the teacher is to create a learning climate where the learner, at his own level of ability and sophistication, is freed to encounter and work on whatever issue confronts him.

---

[1] W. C. Trow, A. E. Zander, W. C. Morse, and D. H. Jenkins, "Psychology of Group Behavior: The Class as a Group," Journal of Educational Psychology, October, 1950.

[2] H. A. Thelen. Dynamics of Groups at Work (Chicago: University of Chicago Press, 1954).

[3] Nelson B. Henry (ed.). The Dynamics of Instructional Groups, Yearbook of the National Society for the Study of Education (Chicago: University of Chicago Press, 1960).

[4] Carl R. Rogers, On Becoming a Person (Boston: Houghton Mifflin Co., 1961).

How can the vast area included in the term "mental health" be studied in the school setting? Teacher-communication was decided upon as the focus of this study for a number of reasons. First, it is central to the teacher's role and thus serves as the principal means of teachers' influence on pupils' mental health. Teacher-communication is an observable behavior rather than a theoretical construct and can thus be dealt with in a researchable context. Finally, teacher-communication has been the subject of research by a number of investigators who have studied the nature of its impact on pupils' mental health.

Withall,[5] Medley and Mitzel,[6] and Flanders[7] have identified various procedures for describing these behaviors. The work of Polansky,[8] Perkins,[9] and others has demonstrated that certain kinds of problem-oriented acceptant and structuring behaviors by the teacher appear to enhance the learning process. Some of the operational definitions of these kinds of behaviors include hearing out the learner, commending the learner when commendation is merited, giving facts and raising substantive questions with the intent of helping the learner elucidate or clarify the problem and helping the learner to identify criteria for assessing progress towards the solution or goal.

The classroom is the arena in which a great deal of activity must go on to accomplish certain cognitive and affective objectives and to resolve emotional and intellectual dilemmas. It is obvious that the learner calls constantly on his emotions, needs, and perceptions as problem solving and learning proceed. Insofar as the classroom "climate" is conducive to focused effort due to the facilitating activities of the teacher, learning and problem solving probably will be helped. The teacher, therefore, must be aware of and calculatedly choose the behaviors he will use that are most likely to enable the learner to bring all his intellectual and affective resources to bear on the problem solving or learning activity. This calls for a high level of self-awareness and self-evaluative skill. The Wisconsin Teacher Education Research Project consistently sought to define and assess some of the facilitative behaviors of teachers, whether they were professors, student teachers, or in-service public school teachers.

---

[5] John Withall. "An Objective Measurement of a Teacher's Classroom Interaction," Journal of Educational Research, 1956, 47.

[6] D. M. Medley and H. E. Mitzel. "A Technique for Measuring Classroom Behavior," Journal of Educational Psychology, 1958, 49.

[7] N. A. Flanders. "Teacher-Pupil Contacts and Mental Hygiene," Journal of Social Issues, 1959, 15.

[8] Lucy Polansky. "Group Social Climate and the Teacher's Supportiveness of Group Status Systems," Journal of Educational Sociology, 1954, 28.

[9] H. V. Perkins. "The Effects of Social-Emotional Climate and Curriculum on the Learning of In-Service Teachers" (Unpublished Doctoral dissertation, University of Chicago, 1949).

Study of the teaching-learning process in its naturalistic setting and analysis of some predetermined aspects of that process (e.g., communication patterns of instructors) seemed to offer considerable promise for prediction and control of the complex and tenuous forces that influence learning. Experts' judgments, questionnaires, methods studies, and global assessments of teacher characteristics simply do not afford the power needed to analyze and understand the educational process. Though these procedures can be used as ancillary tools, it is through the demanding methods of field studies in live classrooms that break-throughs seem more likely.

Evidence is accumulating that the socio-psychological[10] forces generated in classrooms have greater impact on the learners, academically and psychologically, than any pedagogical devices or strategems. Hence, careful study and assessment of these forces is essential. A great deal of the current research is guided by this fact.

The communication construct[11] we chose hopefully would turn out to be less value- and affect-laden than the phrase "mental health." In addition, the construct met certain criteria: relative precision of meaning in psychological and research parlance, applicability at various levels of abstraction and discourse, parsimony, and applicability to a wide range of behaviors.

In choosing the communication construct we operated on the proposition that teachers are placed in classrooms for the purpose of bringing about knowledge, skill, attitude, and behavioral changes in the learners with whom they interact. This responsibility is fulfilled by acts of verbal and non-verbal communication between the teachers and the learners. These acts include not only what is said, but facial expressions, gestures, intonations, listening, and the affect that accompanies all interactions. It seems possible to observe and assess the teachers' behaviors that contribute to communication in learning on the basis of both their content and inferred intent.

---

[10] J. W. Getzels and H. A. Thelen. "The Classroom as a Unique Social System," The Dynamics of Instructional Groups, NSSE Yearbook (Nelson B. Henry, ed.) (Chicago: University of Chicago Press, 1960).

[11] W. W. Lewis, Research Associate with the Wisconsin Teacher Education Research Project, contributed heavily to our development and espousal of the communication construct in the project's methodological design.

The design of the study included the use of university professors to teach three experimental groups of teachers-in-training, using different instructional approaches based on different widely-held theories of learning (see Chapter 3). The kinds of communication used by these professors, and in turn by the teachers-in-training, were studied over a three-year period as the students developed into full-time, fully qualified teachers. The effects of the professors' communications on the future teachers, and in turn the effects of that communication on the pupils, were studied in the light of the pupils' mental health.

The exploratory-descriptive nature of the study gave wide latitude to the investigators to develop and apply instruments and techniques to investigate all aspects of the above processes. The kinds of questions to which answers were sought are: Do patterns of communication with learners differ from teacher to teacher? Can we quantify the elements that contribute to those patterns? Can patterns of communication used by teachers be changed? Can means be devised for facilitating teachers' communication with learners? If more adequate and facile communication is conducive to a better grasp of another's ideas and perceptions, to what extent would enhanced communication between teachers and learners contribute in the classroom to the fulfillment of needs, the achievement of goals, and the facilitation of learning?

On the basis of this, we developed a working definition of communication as a process in which both the information about the internal states of an individual and his interpretation of phenomena are available and conceptualized as he transmits them by verbal and non-verbal cues (input) which, in turn, are responded to by the receiver (feedback). It appears that some of the major communication variables such as verbalizations, commonly shared concepts, and the resultant which we labelled "shared space" were crucial elements in the teaching-learning operation. Unless the learner and teacher can effectively send messages to one another by means of these vehicles, very little analysis, concept development, problem-solving, or insight-learning can occur. In our definition of communication, the use the individual makes of his beliefs is central to the exchange. Beliefs are constantly being tested by the feedback an individual receives from the events in which he is participating. A belief is strengthened, modified, or rejected according to its usefulness in helping the individual "make sense" out of the events of his life.

The present study was designed, therefore, to investigate the communication behaviors of teachers with particular reference to the types of verbalizations that were used. We sought to describe each teacher's verbal behaviors, in turn, in terms of a group of communication categories.

Mental Health and Teacher Education

The Wisconsin Project, sought to examine the impact of a teacher of teachers on the communication patterns and facilitating skills in which the neophyte teacher engaged. We addressed ourselves neither to the issue of the school teacher's mental health nor to the influence in the teacher preparation program of the personal social development of the teacher. However, we did imply by our methodological design that the teacher education personnel has influence on the teacher in training. We addressed ourselves to the question by examining the similarity of communication behaviors between that of the professors who taught the student teachers and that of the student teachers. It would seem reasonable to expect that the behaviors exhibited by and the teaching strategies used by those charged with preparing teachers should influence the attitudes, strategies, insights, and skills developed by the student teachers. If the preparers of student teachers do not utilize effective communication behaviors, do not practice behaviors that free the teacher to capitalize on his cognitive and affective potential, it would seem likely the learning of the student teacher will be hindered.

Teachers in the elementary and high schools tend to teach as they have been taught.[12] What model are they prone to emulate? There is limited evidence that they emulate that teacher who seemed to have best met their needs and expectations, to have paralleled their concept of the teacher and his role, and who was most recent in the roster of teachers to whom they have been exposed. It appears that they do not necessarily accept the guidance or precepts of the person with the highest academic and professional credentials (college professors), but rather the teacher who best served their needs--whether these needs were in the cognitive or affective domain.

> Thought it may not be comforting to the self-concept of some of us, it would seem that professors of education tend to have less effect on students in the development of educational values and methods of teaching than expected--except as catalytic agents. Many of the hard core educational values and procedures by which student teachers are guided seem to have been derived in part from their elementary and high school teachers and from the cooperating or master teacher in whose classroom they taught during their student teaching experience. This suggests that, at least at the professional education level if not before, the cooperating or helping teacher of the beginning teacher needs to be carefully selected and matched with the neophyte whom the

---

[12] John Withall, Morey L. Appell, and J. M. Newell. "Student-Teachers' Concepts for Describing Their Most Esteemed and Most Disliked Teachers," paper delivered at the American Educational Research Association Convention, February 1962.

former takes under her wing. Research on the impact and influence of helping teachers is sorely needed to find out what syndrome of skills, intellect, and compassion in the veteran teacher will best evoke the teaching capabilities of the student teacher.

Related to the growing appreciation of the role of the helping teacher in the professional preparation of teachers is the implication that planned follow-up by staffs of departments of education of their graduates in the first or second years or full-time teaching affords the most fruitful period for professors of teacher education and their institutions to help and to enhance the professional growth of new teachers. This period of professional life is a time of stress and adjustment. The objective counsel of a concerned but uninvolved "expert" who know the young teacher both personally and professionally, as opposed to the beginning teacher's principal or teaching colleagues, can be valuable and productive.[13]

In teacher education there is a dire need to alert those who prepare teachers to the necessity of concerning themselves with the "psyche needs" as well as the "socio needs" of the learner. The former, as defined by Helen H. Jennings,[14], [15] are the needs to be accepted for oneself. They represent needs for understanding and compassion or affection. Socio needs, on the other hand, are the needs on which presumably teachers already are focused, i.e., the need to help learners to grasp facts, concepts, and develop appreciations and insights regarding discrete subject matter fields for the purpose of problem analysis and problem solving.

We concerned ourselves with the communication and verbalization skills of the professors and the student teachers because we sought to focus on a delimited group of variables that are central to the facilitation of learning and because we hypothesized that by observing and counting discrete behaviors we might further develop strategies for sensitizing teachers to the impact of their behaviors on both the learning activities and the personal-social development of learners.

---

[13] John Withall. "Mental Health-Teacher Education Project," Journal of Teacher Education, September 1963.

[14] H. H. Jennings. "Sociometry of Leadership," Sociometry Monograph, No. 14 (New York: Beacon House, 1947.)

[15] ____________. Sociometry in Group Relations (Washington, D. C.: American Council on Education, 1951).

Major Problems of the Study

This study was concerned with the effect of differing instructional approaches as used in the teacher preparation sequence, and later as reflected in the teaching activities of the subjects exposed to these approaches. Several basic problems arose which served as guides in the selection of the present conceptual model: What sort of conceptual framework could be used which would allow a description and means of evaluating different instructional approaches employing different methods and materials and which also was seated in operations, nonabstract terminology? Could this same framework be used to describe and evaluate the diverse activities which occur in the classroom? Could we develop a framework which would adequately reflect the total classroom situation so that statements as to what occurred in a given class would have meaning? Could we identify a construct that would have both operationality and relevance to the concept of mental health? Our answer to these questions was the utilization of the communication model.

Other problems were:

> Identifying variables that were communication-relevant.
>
> Identifying or developing instruments that would assess the central variables of the study.
>
> Defining and describing the three kinds of teaching approaches which were being examined and analyzed.

In most of the research on teaching-learning there has been a penchant either to measure environmental phonomena including materials, equipment, content organization, and the like or to use some global construct such as enthusiasm, rapport, harshness, or sarcasm of teachers to examine the teaching-learning act. We sought to address ourselves to delimited phonomena such as verbalizations, concepts used, and interpersonal relations that all feed into the communication construct we used as the umbrella idea for the Wisconsin study. Obviously, except for the instruments developed by Anderson,[16,17]

---

[16] H. H. Anderson and H. M. Brewer, "Studies of Teachers' Classroom Personalities, I, Dominative and Socially Integrative Behavior of Kindergarten Teachers" (Stanford, California: Stanford University Press, 1946).

[17] H. H. Anderson and J. R. Brewer, "Studies of Teachers' Classroom Personalities, II, Effects of Teachers' Dominative and Integrative Contacts on Children's Classroom Behavior" (Stanford, California: Stanford University Press, 1946).

Withall,[18] Medley and Mitzel,[19] Flanders,[20] and Smith,[21] there are very few instruments with reliability and validity that can be used for the assessment of verbalizations in the teaching-learning act. We decided, therefore, to benefit by the research done to date and proceeded to develop a set of communication categories. The interpersonal relations constructs were even more difficult to measure and were got at, to some extent, through perception measures.

From the very outset we sought, with some success, to define the three differing instructional approaches we were testing. We did not call them methods or procedures, but used the more global concept of approaches. We developed the notion of focus of concern, as indicated by the instructor operating in one or the other of the approaches, and eventually had the obvious and sensible idea of inviting the instructors to present their own statements about the rationale and philosophy which undergirded their approaches to the common subject matter, developmental psychology (The Child: His Nature and His Needs) and educational psychology (The Nature and Direction of Learning).

We hoped through our research to bring to the attention of our colleagues issues related to the personal-social development of learners as well as to their cognitive and intellectual development. As in most investigations, little was done during the conduct of the study to help bring about changes in the over-all education enterprise at the University of Wisconsin.

Mental Health and Education

The essence of mental health lies in the educative process which takes place primarily in the home and in the classroom. The major responsibility for preventive efforts regarding mental illness lies with the educational process as it is carried out in home and school.

---

[18] John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 17, March 1949.

[19] D. M. Medley and H. E. Mitzel, "A Technique for Measuring Classroom Behavior," Journal of Educational Psychology, 49, 1958.

[20] N. A. Flanders, "Teacher Influence - Pupil Attitudes and Achievement: Studies in Interaction Analysis" (Minneapolis, Minnesota: University of Minnesota, November 30, 1960).

[21] B. O. Smith and M. O. Meux, "A Study of the Logic of Teaching" (Urbana, Illinois: Bureau of Educational Research, College of Education, University of Illinois, n.d.).

The concept of "education" emphasizes the process of helping individuals realize and actualize their potential while developing and formulating perceptions, mastering information and utilizing it, experiencing and accepting feelings, and relating all these to thought and action in a harmonious integration of cognitive and affective elements.

In examining classroom activities in the light of communication processes, a dynamic orientation is taken to the teaching-learning act. Teaching or the facilitation of learning is seen less as a transmission process and more as an inquiry process. It is the difference between telling the learners and helping them to find out. There are certain mental health assumptions underlying this kind of strategy which imply an acceptance of a set of values involving the independence, self-directiveness, self-reliance, and self-realization of each learner.

Furthermore, it seems necessary that the learner be helped to be aware to a greater extent of the process and implications of the experience of learning and problem solving that he is undergoing. Is it better to formulate the explanations and give them to the learner, or is it better for the learner to derive personally the explanations and interpretations of his learning experience so that he develops his own explanation of the phenomena he encounters?[22]

---

[22] This conceptualization was offered by Hildegard E. Peplau, Ph.D., of Rutgers University, at a Project work-conference held at the University of Wisconsin, Madison, November 10-13, 1960.

CHAPTER II

METHODS OF THE STUDY

by

Dan W. Andersen

Background

The Wisconsin Teacher Education Research Project was one of the four projects, supported since 1958 by the National Institute of Mental Health, designed to study the influence of teacher education programs on the professional development of teachers.[1] The project grew from a desire on the part of the University of Wisconsin School of Education staff to investigate and improve its teacher education program. The study relied heavily on the fact that the University, being the major educational institution in the state, had maintained over the years a close working relationship with the school systems of many urban and rural communities.[2]

The Wisconsin study focused on the undergraduate elementary teacher education program. Notwithstanding an interest in all levels of the teacher education program, the logistics of working with secondary education programs were too complex to make their inclusion feasible. The undergraduate elementary program allowed greater control of the students' academic activities and experiences.

Design of the Study

The purpose of this study was to determine what effects different college instructional approaches would have on students preparing to be elementary school teachers. The major question was, How do different instructional approaches in a teacher's university training affect the mental health of his pupils? Two related questions, which influenced the design of the research, were also investigated. They were: (1) What is the influence of different instructional approaches in teacher-training courses upon the communication behavior of student teachers? and (2) What aspects of teacher communication behavior, if any, influence mental health in the classroom?

---

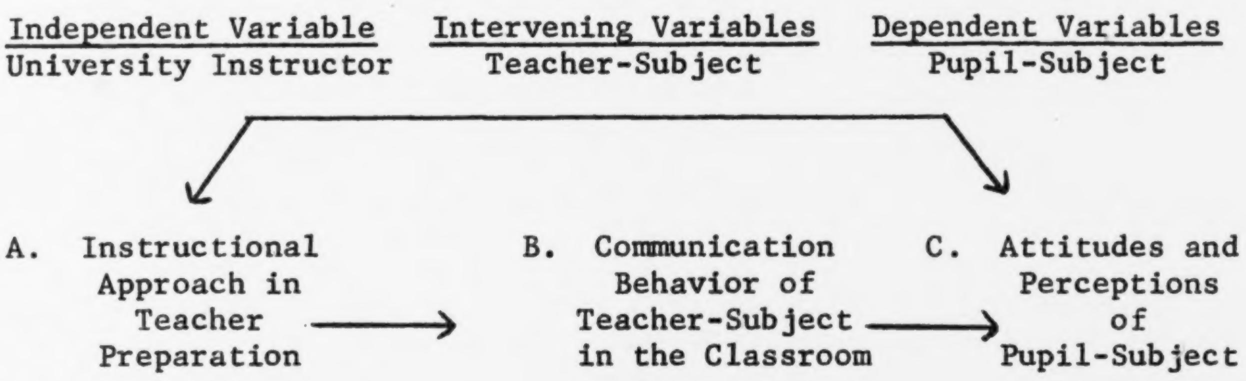
[1] The other three projects were located at the Bank Street College of Education in New York City, San Francisco State College, and the University of Texas. The four studies were independent of each other in objectives, design, and methodology.

[2] Throughout the state of Wisconsin, more than 60 school systems cooperate with the University in programs of teacher preparation and education research.

The study was explicitly defined as an exploratory-descriptive task. It was recognized that the original research design would necessarily be limited to a skeletal one, with more detailed design to evolve as the project progressed.

Three sets of variables and their interrelationships were to be investigated. The first, different instructional approaches in the university classroom, was considered the independent, experimentally manipulatable variable. The attitudes and perceptions of the pupils in the elementary school classroom were defined as the dependent variable. The communication behavior of the teachers, which was to be shaped by university instruction and would be manifested in interaction with pupils in the elementary school classroom, was conceptualized as the intervening variable.

The overall design is summarized in the following diagram:


Independent Variable
University Instructor
Intervening Variables
Teacher-Subject
Dependent Variables
Pupil-Subject
A. Instructional Approach in Teacher Preparation
B. Communication Behavior of Teacher-Subject in the Classroom
C. Attitudes and Perceptions of Pupil-Subject

Population

The principal subjects for this study were those students enrolled in the Education 73-Education 75 sequence in the Fall and Spring semesters of 1960-61. These students, referred to throughout as "teacher-subjects," were randomly assigned to one of the three experimental groups by assignment to one section of Education 73. (See Procedure, below.)

With one exception, the population was female. The original group of 61 teacher-subjects was reduced to 36 over the three years of the study. (See Table 1.) The population was concentrated in and around Madison during the two undergraduate years involved in the study. Upon graduation and employment, the teacher-subjects were spread across the United States. (See Table 2.)

Data were also collected from the pupils of each teacher-subject during the third year of the study. There were 660 children in all. For clarification of presentation, these children will be referred to as "pupil-subjects." Table 3 shows the distribution of teacher-subjects by experimental groups (university instructional approach) and the number of pupil-subjects in the classes of each.

Table 1

DISTRIBUTION AND ATTRITION OF TEACHER-SUBJECTS BY SEQUENCE AND APPROACH

Sequence	Approach I	Approach II	Approach III	Totals
Juniors (1960-61)	19	22	20	61
Seniors (1961-62)	16	18	17	51
Teachers (1962-63)	14	12	10	36

Table 2

DISTRIBUTION OF FULL-TIME TEACHER-SUBJECTS BY AREA AND APPROACH

Area	Approach I	Approach II	Approach III	Totals
Madison, Wisconsin	9	3	4	16
Wisconsin (Outside Madison)	2	6	3	11
Minnesota	1			1
Illinois	1			1
Ohio			2	2
Colorado		2		2
California	1	1	1	3
TOTALS	14	12	10	36

Table 3

DISTRIBUTION OF PUPIL-SUBJECTS AND TEACHER-SUBJECTS
BY APPROACH AND GRADE LEVEL

Grade		Approach I	Approach II	Approach III	Totals
1	Pupils	--	--	32	32
	Teachers	--	--	3	3
2	Pupils	35	15	51	101
	Teachers	2	1	3	6
1 & 2	Pupils	27	--	--	27
	Teachers	2	--	--	2
3	Pupils	41	37	15	93
	Teachers	2	3	1	6
4	Pupils	121	46	43	210
	Teachers	5	2	2	9
5	Pupils	40	63	--	103
	Teachers	2	3	--	5
6	Pupils	24	59	20	103
	Teachers	1	2	1	4
5 & 6	Pupils	--	23	--	23
	Teachers	--	1	--	1
TOTAL	Pupils	288	243	161	692
	Teachers	14	12	10	36

Procedure of the Study

Instructional Approach: The Independent Variable

Different instructional approaches were used in two sequential one-semester courses with the three experimental groups of teacher-subjects. Three class sections of the Junior year sequence Education 73-Education 75 ("The Child: His Nature and Needs"; "The Nature and Direction of Learning") were established, and each student was randomly assigned to one. Each had a different instructor.

Approach I, used in the first section, was a "concept-centered" approach, focused on the development and understanding of principles and concepts derived from the course content.

Approach II, the "case study" approach, developed the same course content through studies of individual case histories.

Approach III, the "learner-centered" approach, focused on developing the teacher-subjects own self-understanding and self-insight through a study of the processes of development and learning.

Class meetings of Approaches I and II were handled as lectures combined with discussions, while free classroom discussions were combined with self-selected learning in Approach III. The assignments and reading materials for the sections necessarily varied according to the approach being used. (See Chapter 3 for a full description and discussion of the three instructional approaches, and Chapter 5 for a statistical analysis of instructors' communication behaviors and students' responses to them.)

The regular 50-minute class sessions of each of the three instructors were routinely tape-recorded during the two semesters. Six times during the year trained observers visited each class section and categorized the three instructors' teaching behaviors using an observation scale to describe their communication patterns. (The Fourteen Category Observation Scale is described in Chapter 4.) The characteristics of the instructional approaches have been studied primarily by analysis of the taped and observation data. (See Chapters 3, 4 and 5.)

Communication Behavior of Teacher-Subjects in the Classroom: The Intervening Variable

The teacher-subjects were studied over three years as they progressed from students in the University to full-time teachers in elementary classrooms. From the many different aspects of teaching behavior that might have been studied, the teacher's communication behavior was selected as representing his most significant interaction with his pupils.

In the first year of the study, the teacher-subjects, who were then Juniors, were enrolled in a two-semester curricular instruction course (Education 31a-b) which, in addition to class meetings, involved two half-days per week of "teacher-participation" in public elementary school classrooms. A trained observer visited each teacher-subject working in his elementary school classroom once during each semester and recorded his communication behavior, using the Fourteen Category Observation Scale. Whenever possible, the teacher-subject was observed in a social studies or science lesson. The observations lasted approximately 30 minutes.

In the second year, when the teacher-subjects were enrolled in the required Senior year student teaching course (Education 41, one semester) each was observed twice in the elementary school classroom. Each time, the observer categorized the teacher-subject's communications using the Fourteen Category Scale, and a tape recording was made concurrently. Each of these observations lasted approximately 50 minutes.

The classroom of each teacher-subject, now a full-time teacher, was visited in October, in January, and in May of the final year of the study. Each time a tape recording and concurrent observation of approximately two hours of classroom interaction was obtained.

A model of the communication construct used in the study, and a description of the Fourteen Category System for analyzing communication are included in Chapter 4. In Chapter 5 the results of statistical analyses of teacher-communication are presented, and are related to data from the pupil-subjects. As the study progressed, in accordance with its exploratory-descriptive theme, other categorization systems were developed, applied, and analyzed. These supplementary analyses are presented in Chapters 6 and 7.

Attitudes and Perceptions of Pupil-Subjects: The Dependent Variable

The measures of the elementary school pupils' "mental health" were compiled after extensive preliminary investigation. Since mental health is an all-encompassing term which is not in and of itself amenable to rigorous operational definition, several specific variables which are associated with and contribute to the individual's mental health, and which would yield data that could be integrated with the other data to be collected, were selected as indicators. This approach is in keeping with the project's exploratory-descriptive theme, which implies that several parts of the universe of indicators of mental health are being investigated.

The aspects of mental health which were selected for study were: (1) the child's perception of his teacher's behavior, on dimensions corresponding to the categories of the observational system, (2) the child's perception of his peers' behavior, (3) the child's actual self-concept, and its deviation from his ideal self-concept, and (4) the child's general attitudes toward school.

The instruments to be used for these assessments were selected with several primary considerations in view. First, it was concluded that elementary school pupils could work with paper-and-pencil measures, and that the great efficiency of that type of survey demanded its use.

Next, a pilot study of a number of instruments supported the proposition that the most meaningful responses are obtained from questions which refer to those behavior characteristics which are most objective and most observable. In connection with the latter point, there is some evidence that behavior which reflects adherence to or deviation from salient values of social behavior is most observable. Within the broader framework of the research objectives, this is a convenient and significant point.

Finally, it was concluded that data about whole classroom groups would be more meaningful than would individual case studies of the children. Trends within each group could be determined using descriptive statistics, and in this way "classroom climate" could be tapped without delving into the many individual factors that determine each separate child's state of mental health.

With these criteria in mind, the specific scales to be used for measuring children's attitudes and perceptions were selected according to information about the specific aspects of mental health they would provide. The scales described below were put in test booklets, one for each pupil-subject, in the following order:

The Child Report: Teacher Communication Scale (Actual-Ideal). It seemed necessary to know how the teacher's communication was perceived by his pupils. If there were little or no connection between the teacher's communication as rated by the visiting trained observer and as perceived by the pupils, inferences about the connections between observed teacher behavior and pupil behavior would not be warranted. The Teacher Communication Scale was developed for the purpose of measuring children's perceptions of teacher behavior on dimensions which correspond to twelve of the categories found in the Fourteen Category Observation Scale. The twelve items of the scale, and the corresponding categories from the observation scale are shown in Table 5. The teacher-behaviors related to the other two categories were not considered to be observable by pupils.

The twelve items were selected, on the basis of clarity, logical relationship to the conceptual categories, discrimination, and internal consistency, from the 36 items administered in a pilot study.

Some of the items might suggest that the child evaluates the teacher in a negative sense, when in actuality he does not. Therefore, the Scale was administered in two sections, one asking whether the teacher is actually "like this," and the other asking whether the child would like a teacher "like this." These two sections, called respectively the "Actual" and "Ideal" scales, provide a measure of the pupil's ideal teacher, against which his rating of his teacher can be evaluated, and from which relationships between pupils' "teacher-ideal" and other variables can be inferred.

The format of the items in the two scales, of which a sample appears in Figure 1, remains identical except for the stems. (The complete instrument is found in Appendix A.)

		YES	yes	no	NO
Some teachers suggest different things so you can choose for yourself.	Is my teacher like this?	☐	☐	☐	☐
Some teachers suggest different things so you can choose for yourself.	Would I like a teacher like this?	☐	☐	☐	☐

Figure 1. Sample Items on the Child Report: Teacher Communication Scale (Actual-Ideal)

The data from the Child Report: Teacher Communication Scale (Actual-Ideal) instruments were analyzed for each class in terms of (1) the mean pupil response to each of the twelve items on the four-point scale, (2) the mean discrepancy between responses to the two questions on each item, (3) the total mean discrepancy between responses to the two questions on each item, and (4) the total mean discrepancy for the twelve items. The data were subjected to factor analysis as well as to several other analyses.

The Child Report: Peer Behavior Characteristics Scale. This variant of the standard sociometric procedure was used to investigate the children's perceptions of their peers' behavior. The primary purpose of including this assessment in the battery was to measure the social-emotional climate of each classroom, on the assumption that a "mentally healthy" class would be characterized by a favorable social-emotional classroom climate, and that this would be reflected in positive evaluations of their peers by the children. The converse, that a "mentally less healthy" class climate would be reflected by a predominance of negative evaluations of peers was also assumed.

The Scale presented brief behavior descriptions and instructed the children to nominate the class members who fit that description. This measure was adapted from a test developed by Lewis[3] who had modified items from earlier studies done by Havighurst and others[4] and by Mitchell.[5] The nine-item test (see sample items, Figure 2, and complete instrument, Appendix B) includes three items describing each of three constructs: social acceptability, aggressiveness, and social isolation. The items are arranged in triads, so that the social acceptability items, for instance, are numbers 1, 4, and 7.

Lewis reported that each group of three items proved to have high internal consistency, and that no item in one group had a significant correlation with any item of another group. The test-retest reliabilities of the three groups of items were estimated as .98 for social acceptability, .82 for aggressive maladjustment, and .72 for social isolation.

---

[3] W. W. Lewis. "The Construct Validation of a Reputation Test." Unpublished Doctoral dissertation, Division of Human Development and Guidance, George Peabody College for Teachers, 1959.

[4] Robert J. Havighurst, R. F. DeHaan, W. H. Dietrich, et al. "A Community Youth Development Program." Supplementary Educational Monographs, 1952, No. 75.

[5] J. V. Mitchell. "The Factor Analysis of a 'Guess-Who' Questionnaire Designed by Identify Significant Behavior Patterns in Children." Journal of Personality, 1956, Vol. 24, pp. 376-386.

1. Which children are good at starting games and getting things going, the ones that think of interesting things to do?

2. Which children quarrel and argue a lot?

3. Who are the boys and girls that are too shy to make friends easily?

Figure 2. Sample Items from the Child Report: Peer Behavior Characteristics Scale

The administration of the test in the primary grades was accomplished by providing each child with a composite photograph of all the members of the class, on which each child was assigned a number. The examiner read each item, and the children were instructed to look over the photograph and enter the numbers of the children whom they wished to nominate in the boxes under the question. The intermediate grade children were given a list of the names of their classmates, each with an identifying number. They were instructed to read the items to themselves and respond by number. All the children were told that they need not fill all the boxes, and that if they needed more space they could put more than one number in a box.

The raw data from the Peer Behavior Characteristics Scale were coded for numerical analysis as the number of nominations received by each child on each item. This provided for analysis at two levels, that of the class and that of the individual. The number of nominations received by individuals could be examined for its relationships with other variables, such as sex, self-concept, teacher ratings, and favorability of school attitudes. At the same time, each class could be described in terms of such measures as the number of children named on each item, the total number of nominations made by the class on each items, and the distribution of nominations. Items which loaded on each of the three factors (social acceptability, aggressiveness, and social isolation) of the scale were combined for the analysis in order to assess the tendency of the class to be characterized according to each behavior cluster.

The Child Report: Children's Behavior Characteristics Scale (Actual-Ideal). This scale was devised to assess the child's actual self-concept and his conception of his ideal self, so that a measure of the discrepancy between the two could be obtained.

The Scale is a nine-item itest with three items describing each of the three constructs "socially adjusted," "aggressive," and "socially isolated." The items are similar to those used in the Peer Behavior Characteristics Scale, which provides an opportunity to compare the child's self-perception with his peers' perceptions of him.

In the first part of the Scale, called the "Ideal," the pupil is asked how strongly he would or would not like to be the person described. In the second part, called the "Actual," the items are repeated and he is asked how strongly he feels he is or is not like the person described. In order to minimize carry-over from the Ideal to the Actual scales, the two were widely separated in the test booklet. Sample items from the scales appear in Figure 3, and the complete scale is included in Appendix C.

Actual

		YES	yes	no	NO
1. Some children are good at starting games and getting things going. They think of interesting things to do.	Am I like this?	☐	☐	☐	☐

Ideal

		YES	yes	no	NO
1. Some children are good at starting games and getting things going. They think of interesting things to do.	Do I want to be like this:	☐	☐	☐	☐

Figure 3. Sample Items from the Child Report: Children's Behavior Characteristics Scale (Actual-Ideal)

The child's two responses to each item (his description of his ideal behavior and his report of his actual behavior) were compared in the scoring process, with the amount of discrepancy used as an index of the child's self-concept. The "class mean self-concept" for each of the three factors was computed by summing all of the children's discrepancy scores for each of the three items on each factor and finding the mean factor score for the class. Individual children's factor scores on the self-ratings were correlated with a number of other variables as part of a supplementary study of pupils' perceptions of self, teacher, and peers.

The Child Report: School Attitude Scale. This twelve-item instrument was designed to measure the favorability of pupils' attitudes toward school. The items were intended to assess positive or negative attitudes toward several aspects of the school situation: the classroom, learning, schoolwork, and school in general. Several of the items were original in this research, while others were borrowed from earlier studies. There were six positive and six negative statements.

The format of the items (see sample items on Figure 4 and the complete Scale in Appendix D) was designed to reduce the tendency to give socially approved responses. By prefixing the items with the clause, "Some children say," it was hoped that the attitude expressed by each item would be regarded as the "norm" for a set of children and that the respondent would be more willing to express his own negative feelings if he were agreeing with this imagined set of peers.

SOME CHILDREN SAY:

		YES	yes	no	NO
I enjoy most of the things I do in school.	Do you feel like this?	☐	☐	☐	☐
		YES	yes	no	NO
I think school is a waste of time.	Do you feel like this?	☐	☐	☐	☐

Figure 4. Sample Items from the Child Report: School Attitude Scale

Intermediate-level pupils were instructed to read the items and mark their responses, and the items were read aloud to the primary-level classes. The examiners were advised to take special precautions against confusion resulting from double negatives. That is, they were told to emphasize that the child was to answer the question, "Do you feel like this?" rather than to state the corollary to, "I don't like all the hard work we have in school."

Responses to the items were tabulated and weights were applied to them. These weighted scores, for individuals and especially for classes, were used in all analyses of the data.

The results of the analyses of these measures and their interrelationships with the other measures and data of the study are presented and discussed in Chapters 5, 8, and 9.

CHAPTER III

THE THREE INSTRUCTIONAL APPROACHES

by

Morey L. Appell

The fact of a major research project "recognized and implicitly defined as an exploratory-descriptive task,"[1] lent impetus to the Wisconsin Teacher Education Research Project's attempt to define and to describe in full detail the three experimental teaching variables. This effort has been guided by two clear purposes: (1) the desire to set forth each approach in its wholeness: that is, to delineate and to indicate the connections between the historical emergence of the approach and its backdrop, the chief theoretical assumptions (especially those pertaining to learning theory) and the nature of the actual college classroom implementation as attested by the instructors themselves and as revealed through the tape-recordings which were made of their class meetings; and (2) the presentation of the material relevant to each approach in an over-all context which would reveal its meaningfulness to any serious student of the human learning process and especially to classroom teachers desirous of discovering possible relationships between philosophical viewpoint and practice, between theories of learning and their conscious classroom implementation. It is felt, too, that the meaning of this research project's findings finally have significance when seen in the light of the precise and explicit nature of the teaching method pursued.

The springboard for the evolvement of the present statement was the original project description of the three approaches.[2] With minor changes and provisos the instructors agreed that these indeed represented a reasonable over-all description of what they intended and pursued in their individual methodologies. From this base the instructors were asked to indicate the historical roots as they perceived them, the philosophical-psychological assumptions or schools or thought held central and the way in which they behaved or utilized themselves in the teaching situation. It would seem there is no more appropriate question to put to one who teaches about the nature of teaching than, "What is the particular set of assumptions about the nature of the human learning process which you utilize in your work with students?"

---

[1] Dan W. Andersen (Ed.), The Wisconsin Teacher Education Research Project: Design and Instrumentation, (University of Wisconsin, December 1963) Chapter I, p. 2.

[2] Ibid., Chapter II, pp. 13-23.

In one way or another most of the instructors disclaimed the value of an answer to such a question insofar as its meaningfulness for major insight into their actual teaching operations. Most seemed eager to point directly at their classroom functioning as prime evidence of the efficacy of their teaching methodologies. While there is a certain kind of pragmatic truth in this claim, it also leads to a subjective tenuousness on the part of the observer if he is concerned about the establishment of relationships and connections between the assumptions underlying the utilization of an approach and the actual implementation of them in direct contact with students.

As there was uneveness in the amount and kind of historical, philosophical, and learning theory material forthcoming from the instructors, so too is there uneveness in these areas as they are finally developed herein. Every attempt has been made to cull from the literature suggested as significant by the instructors themselves and from their personal, direct statement whatever theoretical substance they wished to include. In fairness to the instructors the incompleteness appears to be a reflection of a painfully needed and thus far relatively neglected area of American teacher education--the forthright statement of the assumptions one makes as he teaches, along with the commitment and the willingness to have these assumptions steadily examined by the students caught up in the process for which the instructor takes the responsibility for initiating.

In a sense, therefore, the pith of this attempt to assay teaching behavior is represented in the pattern drawn from the tape-recorded observations. The instructor behavior has been classified and analyzed by communication categories (see Chapter 5). Observers in the classrooms quantified the communication acts. But the content of what was said by the instructor and the dynamics of his relationships with students had to be taken directly from the class meetings as tape-recorded. About twenty-five excerpts of each approach were taped for their instructional behavior meanings. No conscious frame of reference guided this listening. Rather the desire was to discern the broad modes of instructor behavior and interaction with students. The themes which emerged were strikingly similar to those stressed by the instructors themselves as they described what they felt to be the dynamics they were encouraging. But their actual tape-recorded behavior lends meanings to the themes which are frequently at variance with intended instructor behavior.

Withall[3] examined the observational data from the classroom sessions of the instructors and reported finding significant differences between the instructors in connection with the communication model, differences which were theoretically expected and in some cases hypothesized. These differences are even more evident in the actual instructional classroom behavior. Actually the differences are manifest in the very first classroom interactions. Here the instructor characteristically has presented himself--his wishes for the teaching method to be used and the meaning of the course--in the manner in which he hopes the course will be perceived by the students: in the manner in which he frequently requests that it be perceived. Thus, the description of instructor impact begins with early class sessions and proceeds to the identification of major themes and illustrative content from the typescripts.

What follows, therefore, is the presentation of each teaching approach couched in both theoretical and dynamic perspective. This material has been organized about the themes of: History and Backdrop, Goals, Theoretical Frame of Reference, Learning Situation Rationale, and Description of Instructor Classroom Behavior. It is hoped that the material thus presented will be perceived as an over-all frame of reference enabling a more viable view of the ultimate research findings. Hopefully, it can serve, also, as a springboard for future research efforts devoted to the purely pragmatic meaning of theory and its alleged meaning for the live relationship between teacher and student and the nature of the ensuing learning.

The Concept-Centered Approach

History and Backdrop

This approach has its roots deep in antiquity. It is the oldest teaching approach, the one most frequently accepted as consonant with the nature of teaching, and the approach which leans most heavily upon popular-contemporary belief (in both lay and professional circles) that the learner needs to be motivated and guided toward the achievement of his goals through some kind of a structured educational situation which includes, usually, some type of reward (reinforcement) and punishment in relation to success or failure. This approach, traditionally, has been associated with a disciplined control bordering upon fear and conformity but it is not dependent upon harshness, authoritarianism, or indigenous rigidity as necessary or desirable conditions of learning. Without negating emotionality or its function in learning, this approach emphasizes the cognitive and the necessity of disciplined organizational patterns.

---

[3] John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms," Journal of Experimental Education, 1949, 17, pp. 347-61.

This approach postulates an instructor who commands the knowledge he hopes to communicate to his students. Since time immemorial, "teaching" has been perceived this way--with the instructor as the one who "teaches," giving of his knowledge to students in lecture form or some variation thereof. The concept-centered approach, as viewed in this Teacher Education Research Project has, as its central focus, the presentation via lecture, discussion, films, books, and other resources of the concepts, methods, and principles which represent the basis for effective teacher functioning with children. The emphasis upon presentation of ideas and the use of a variety of approaches and techniques to move students toward a mastery of these concepts places this way of teaching in the tradition of the behavioristic psychologists and educators of past and present.

Goals

The concept-centered approach is focused upon the cognitive pole of the affective-cognitive continuum. The instructor's goals are based directly upon the concept-building process and the significant generalizations which flow from it. The stress is upon the learning of pertinent concepts, definitions, hypotheses, and other applications of the teaching-learning situation.

As stated by the instructor who utilized the concept-centered approach, his goals are to help students:

1. Gain basic concepts, definitions, principles, relationships, etc.
2. Understand issues and how concepts are applied to classroom situations.
3. Plan for employing the principles and ideas.
4. Try out the principles and ideas.
5. Assess results and try to understand why or why not the results are as expected.

Theoretical Frame of Reference

Advocates of this approach view themselves, usually, as broadly eclectic insofar as they emphasize theoretical undergirding. They draw heavily from the theoretical positions of J. B. Watson, Edward L. Thorndike, C. S. Hall, E. Tolman, E. Guthrie, O. H. Mowrer, J. Dollard, and N. E. Miller. All of these theorists have worked directly at learning theory (theory to account for the acquisition, retention, and extinction of behavior) and in some instances have presented the learning theory itself as an all-embracing theory of personality.

In one way or another, therefore, the instructor is perceived as source of stimulus, the student as stimulus target and source of response. The teaching operation becomes one of seeking and finding the appropriate ways to consummate the stimulus-response circuit, so that there may be movement toward the pre-set learning goals. There is need for extreme caution in the description and identification of this frame of reference because there are such differing points of view about what the translation into the teaching position purports. Moreover, the range of eclecticism includes the Dollard-Miller integration of reinforcement theory, Freudian psychoanalytic theory and social anthropological findings all the way over to some who have amalgamated a variety of Mowrer's two-factor learning theory with John Dewey's experimentalism. It appears that most instructors who do not identify themselves directly as Gestalt, learner-centered, or phenomenological in orientation, tend to hold some manner of behavioristic theory which is reflected in their teaching behavior. Obviously this constitutes the great bulk of teachers at all levels of learning.

Learning Situation Rationale

The concept-centered instructor identifies himself as eclectic in orientation and views himself as employing a two-factor learning theory. One factor is that of non-purposeful learning (conditioning, especially of emotions); the other factor, that of purposeful learning, including trial and error and insightful learning. He lists these points in emphasizing his own teaching approach:

1. The need for basic knowledge of definitions, concepts, and the way in which others have attacked teaching problems.
2. Stress upon generalizations since teachers deal with groups.
3. Emphasis upon the teaching-learning process.
4. Deductive-inductive thinking.
5. The ability to understand principles and to plan and evaluate progress (hoped-for outcomes).
6. The recognition of individual differences--treated as deviations from the rule.
7. Cognitive processes as attitudes are not worked at directly but arise from understanding.

In further clarification of the rationale supporting his particular approach to concept-centered teaching, the instructor has said (stressing that no particular learning theory is implied):

> I am convinced that with the complicated kind of world we live in, kids need adults to help with the structuring

> (of it). I am keenly interested in creativity, mental health principles, and possibilities for divergent thinking, yet must confess that before one can be creative, he must gain an organized background of what others are thinking and doing. Further, our world demands commonality of thinking as well as individuality, and the best way I know to provide this is to present concepts which can be discussed and evaluated before personal choices and values are developed by the students.
>
> I guess I try to separate teaching from therapy more than many. I am not convinced that students can learn well simply by having problems set for them to solve. They need condensed versions of how others have tried to solve problems before they tackle them themselves.
>
> Concept-centered, to me, means a look at knowledge and principles, and then evaluation and application of such knowledge and principles. It does not negate individual differences nor attempt to mold kids. It does mean a start with generalizations already developed, to prevent too much waste of time and erroneous efforts, some of which could be traumatic in the broadest sense of the word.
>
> ...I would characterize my general approach as mainly a process approach to acquiring knowledge. What I mean by that is that I like to set up a framework... and discuss ways in which the students can acquire this content...In other words, my mission in teaching is not to entertain them, although I can, but to entertain them, although I can, but to get them to see it's their responsibility to pick up the concepts and the facts through my guidance.

Herbert J. Klausmeier[4] has presented principles and factors which appear to be central to the concept-centered teaching rationale and which portray some of the dynamics the instructor tried to actualize. While the instructor's emphasis was distinctly cognitive, factual, research-minded, and instructor-directed, he had an awareness of the significance of his meaning and relationship to the students and was eager to have a warm, positive rapport, albeit without high emotional overtone or "therapeutic" intent. Thus Klausmeier points to the efficacious teaching situation as including a teacher who:

> ...deliberately varies the type of leadership to meet the demands of particular situations. But, regardless of the type of leadership, the teacher must be per-

---

[4] Herbert J. Klausmeier, Learning and Human Abilities: Educational Psychology (New York: Harper and Brothers, 1961).

> ceived by the students as a helpful person. Students perceive a helpful person as one who considers the problems of students important, communicates with the student on a variety of topics, and helps the student with his problems.[5]

Description of Instructor Classroom Behavior

The live relationship between the concept-centered approach instructor and his students is clearly instructor-centered as well as concept-centered. The course dynamics are initiated by the instructor; the direction of the course movements are determined, largely, by him. The instructor offers principles, suggestions, admonitions, and personal opinion. Apart from student reports of various kinds, the concept-centered instructor tends to initiate the course activity of the day, make a presentation of some kind, request and handle questions, summarize the information or point of view he is stressing and leave with the class his idea of what the next and succeeding class meetings might include if not "cover." Within this over-all frame there is a distinct pattern arising from time to time in which a student raises an issue, problem, or question which initiates a brief interchange of a semi-Socratic nature, some kind of concluding or integrating thought by the instructor, and movement in directions he chooses.

I

The instructor quickly establishes the nature and the direction of the class meeting. Thus even as the usual pre-class conversation is subsiding.

Instructor: Some of you have had a chance to go through the value thing and I would like your reactions to them. I said to the people at ________ (name of school), if they would have their pupils put down what they consider important things in life...a free hand picture of their value system. I'll pass them around for you to look at. Then _______ has an article she wants to read from... Do you want to discuss yours? ...

In the above excerpt the instructor initiates the class activity and requests specifically, "...I would like your reactions to them" (the papers on values). He tells that a student will then read an article and returns to the discussion he wants with, "Do you want to discuss yours?" as a way of initiating discussion.

---

[5] *Ibid.*, p. 149.

Again, after reminding the students of the nature of several of the following class meetings, the instructor says, "O.K. Now we have had something about cues in motor learning and they can be of many kinds. They can be external. They can be audio or visual..." Then followed about five and one-half minutes of introduction to the nature and meaning of cues in motor learning.

Class meetings were begun typically in that fashion. In one way or another the instructor simply began to talk on the subject or the announcements of the day. There were class meetings in which a student or committee took over soon after his announcements. But apart from that kind of class, he would move in ways either decided upon in previous meetings or in ways meaningful for him in a particular class meeting.

II

The nature of instruction, frequently, is a lecture-discourse by the instructor. It is not strictly a prepared lecture told straight away to the students; rather it is a combination of principles, suggestions, and thoughts on the subject, usually interlaced with personal anecdotes as illustrative content.

Thus in the lecture-discourse on cues and motor learning the instructor includes the nature, meaning, and use of cues in the learning situation, the meaning and use of feedback, reinforcement of learning, management of practice, success and failure, and transfer. Each is illustrated and somewhat dramatized. He alerts students to the necessity of "practicing a movement at the speed at which it is going to be used," to the necessity of "demonstration, even if not done by the instructor," to the use of "shorter and more frequent practice periods," to the way in which "students have a tendency to find a way that seems comfortable ...do a good job, but it's the wrong way." The lecture-discourse is a major feature of the concept-centered teaching approach. It incorporates principles, suggestions, advice, and cautions about implementation. In it the instructor appears to utilize himself most fully.

In addition to the lecture-discourse, the instructor utilizes a variety of techniques to carry through the central teaching theme of the stimulation, expression, and learning of basic concepts. He says in an interview:

> Well, the number one procedure are these quizzes. That gets the content...The second procedure, that is how do you get involved in learning, is typically on a group or individual basis...I spent the first eight weeks...going through learning theories that relate in Cronbach, etc. During the time that they were reading Cronbach, I was feeding them some of my current research in learning, and how it related to formal

> learning theory. I tested them on this on one of their examinations. This came back to me beautifully...I find that if I can get to the kids on something that I'm involved about, and then stimulate them to ask questions about it, we get along. It's only when I get off on something that I don't know about that we get into trouble, and those things they can better pick up in books, and then they can ask questions about it.
>
> Now, the second part of this particular course is a very interesting part for me. It's the thing I like to do, and that is simply setting up groups with tasks and letting these groups and/or individuals solve a problem. For example, we have set up groups, maybe four to the group, where they have a skill to teach, or an emotional lesson to teach. I divide them up into certain groups at random, and sometimes they don't like this because one kid said that the other two were sloughing off...Now, I think we have very definite ground rules here. The ground rules are that the kids in the audience are to act as adults, the group is to teach an adult skill. They're to prepare an outline of how they're going to teach it. Now, at the same time, the students who are receiving the instruction have to write a two-page paper. They're to select one of these aspects, and it's due the following week, you see ...They not only have to write the two-page paper, but they have to document what they say via the literature, they have to show some sort of objectivity, etc., and they have to write four of these papers...

III

The instructor leads and tends to dominate the class both in his frequent use of the lecture-discourse and in the discussions which occur as he brings into play his questions and the particular ideas he feels to be significant. An excellent illustration of this may be seen in the nature of the interchange which developed after a student, as part of a "demonstration," presented the following:

Student: A train is operated by an engineer, a fireman, and a brakeman--Robinson, Jones, and Smith, but not respectively. Three passengers have the same name. Mr. Robinson, Mr. Jones, and Mr. Smith. What is the name of the engineer?

Data: Mr. Robinson lives in Detroit. The brakeman lives in Chicago. Smith beats the fireman at billiards. One of the passengers lives next door to the brakeman and has an annual income four times that of the brakeman. The passenger whose name is the same as the brakeman lives in Denver. Mr. Jones is a postman and has no other income.

Can you think of where we should start?

(At this point several students attempt to solve the problem. Various suggestions are made.)

Instructor: ...Let's think a little bit about what we're doing here. What happened to us? What was the first difficulty we ran into?

Students: (Varied responses.)

Instructor: You mentioned a lot of the problem you had. I think all of your points are valid. I don't know whether you will agree with me or not, but it seems to me that the very first problem you had was...

Students: ...what you had to work with. We began putting it on the board. We did not have any locus.

Instructor: Now was there any problem as to the real question we were going to answer?

(Calls on student.)

Student: There was...

Instructor: How many of you had any problem on your mind as to what you're supposed to come out with?

(No student responses to the question.)

We're supposed to find out what is the name of the engineer. Before long we got into difficulty trying to find out who the brakeman and fireman were and so forth. We had some difficulty then in defining and then keeping in mind the problem. Then one of you pointed out we had some difficulty with assumptions we ought to make. Did we have any other problems?

(Several students make brief comments.)

Well, let's look back here, keeping the data straight. It seems to me we also had difficulty in determining how we are going to proceed, where do we go from here, how far we have come and so on. And then we have so far as the focal problem...checking the answer...how sure we are correct at all. We have to rationalize the whole thing again, work through it again and then come to the conclusion that we were right. What kind of facts did we actually use here?

Students: Trial and error.

Instructor: Yes, we did use trial and error. Did we use anything else? Did we have any pattern at all?

Students: We used elimination.

Instructor: Yes, we did use a process of elimination. One thing we tried to do, but did not carry far enough, was that when we got a new fact by reason we put it down. But we did not put all of them down. And, therefore, we wasted a lot of time. And, therefore, we wasted a lot of time. Did you see anything else we were doing or weren't doing or should have done?

Students: (Unintelligible)

Instructor: Do you feel that we were flexible, that we were free to think the way we wanted to or were we bearing down on certain things? Did you feel hemmed in, as creative as you wanted to?

Students: ...shared ideas...

Instructor: With your students do you think it's better for the students to work it through, for the teacher to work it through or each child work it on his own?

Students: Well...have the group do it...have maybe the smartest children working together. I don't think you would want to give some children...you have to analyze it... I wouldn't want them to sit with the rest of the class ...and have them too frustrated and not care about it.

Instructor: You think they might make a contribution?

Student: I doubt it.

Instructor: Let me turn it around a little bit here. Do you think those kids have problems they have to solve?

Students: Yes.

Instructor: And you think they are just not going to solve them?

Student: Yes, I think they will. But not these kinds of problems.

Instructor: Now let me ask a question of the class. Do you think that you learned how to think any better or how to solve problems any better, think you learned anything about thinking or problem solving? Now when you teach problem solving in class, I don't care what grade level, the main thing I hope you are teaching is not what the answer is or how you arrive at an answer, but how to think.

	You're helping them think better. Because to teach simply how to find a given answer you're really teaching a relatively rote problem. And that isn't going to transfer very well or help in their everyday life. The value of geometry, science, social science or what have you is if it helps people improve their rationalizations, their reasoning, their ways of solving problems. Well, now, maybe the problem itself did not teach you a whole lot about thinking. The discussion afterwards, though, may have taught you something about thinking. Now, how many of you think the discussion taught you something about thinking? Now, you know what the next question is. What's the next question?
Student:	What was learned.
Instructor:	Yes. Come on. Have any ideas? Come on.
Student:	I think that one thing we learned here...are different ways of solving different problems...also there are certain steps that you can take to clarify...for instance knowing what the problem is.
Instructor:	Do you think that you could give your children a problem to do and then hold a discussion? You know what the steps are:

Defining the problem
Accumulate raw data
Make hypotheses
Check your hypotheses
Evaluate the conclusions

A hallmark of the concept-centered approach is the manner in which the instructor has a "conception" of what he is after and utilizes his discourse and questions to move students toward the ideas he wishes to place in focus, ideas he wishes the students to reflect upon and hopefully to build into their own emerging views. In the excerpt above the student presentation is used by the instructor as prelude to the discussion he motivates and leads by the nature of his participation. The student who presented the engineer, fireman, and brakeman problem asked, "Can you think of where we should start?" and after several student attempts the instructor moves in to say, "Let's think a little bit about where we're going here." He then directs the nature of the inquiry by adding, "What happened to us? What was the first difficulty we ran into?"

From this point until the conclusion of the class meeting he questions, responds to student comments, and speaks extemporaneously as the class teacher. The pointed movement of his leadership is evident in his response to the student answers to his very first questions. He says, "We had that problem but I think we had something even before that." He wishes them to come to his thinking on the matter and he tries to elicit the problem he feels to be significant. Again, after more student attempts to say what problem the instructor was focusing upon he accepts as "valid" what they had said and goes on to say, "I don't know whether you will agree with me or not, but it seems to me that the very first problem you had was..." He is then interrupted by students trying to complete the sentence he had begun. He does not respond to these attempts at all (at least verbally) and asks, "Now, was there any problem as to the real question we were going to answer...? A student comments and again there is no response to the student, but the instructor goes on to his next question, "How many of you had any problem on your mind as to what you're supposed to come out with?" There are no student responses to this question, whereupon the instructor goes on with, "We're supposed to find out what is the name of the engineer..." He reviews some of the difficulties along the way and the student responses that were made. The factors of chief significance here are the emphases upon what was "supposed" to be done and the instructor direction of the discussion.

The discussion which follows is very much of an instructor-questioning and student-responding nature. The relatively closed nature of the inquiries is illustrated by the instructor presentation of the alternative possibilities. Thus, "With your students do you think it's better for the students to work it through, for the teacher to work it through or each child to work it on his own?" After a few more exchanges the instructor asks, "Now let me ask a question of the class. Do you think that you learned how to think any better or how to solve problems any better, think you learned anything about thinking or problem solving?" There is no verbal response at all from students. Then, typically in this approach, the instructor imparts the concept he is after, "Now when you teach problem solving in class, I don't care what the grade level, the main thing I hope you are teaching is not what the answer is or how to arrive at an answer but how to think..."

The press continues as he concludes his statement on this concept with, "Now, you know what the next question is. What's the next question?" A student responds with, "What was learned." And the instructor says, "Yes. Come on. Have any ideas? Come on." Another student responds and the instructor then lists the steps to be taken in problem solving. The discussion then continues with the instructor relating much the same way, except possibly for lengthier statements from time to time. Typical, too, are the statements of concepts along the way. After warning of teachers who do not let the pupils on their own, he states the concept: "The only time in problem solving that I think you have the right to lead them through is if it is something entirely new, a concept which they cannot be expected to get without wasting a terrific amount of time and getting very frustrated..." The closing of the class meeting is instructive as to the steady press and directiveness of the concept-centered approach.

Instructor: Now, we're going to have another demonstration on Monday. They are going to teach us something, a problem, solution, and so on. And then we're going to arrange the answers of the class--a little bit similar to what we had today but more of a school problem. Why don't you do a little more reading from the references about problem solving. If you look at the references, there are some on problem solving, and then be prepared to make a critique...

IV

The concepts, the central ideas, the principles are used when possible (even if not pre-planned) as the chief learning factors; their presentation represents the core of the concept-centered approach. There is little need here to illustrate at length the workings of this core of the straightforward lecture--the full detailing, with blackboard assistance, of the meaning, derivation, and implications of various concepts.

Of more pertinence in viewing the dynamics of the approach is the manner in which the concepts become integral as the instructor utilizes them emergently. It is useful to have the context in which the following concepts appeared. Moreover, the particular responses of the instructor reveal characteristic expression and movement. The excerpt is helpful also in indicating the nature of the student expression which can follow the presentation of what the instructor deemed significant concepts. A class discussion of parent-teacher relations and understanding develops in this way:

Student: Getting back to this defensiveness, the other day I happened to walk into school after report cards were brought back and I heard a mother say, "Yes, but he said when he puts his hand up you don't offer to help him." The teacher answers every hand that goes up. No suppose that was me, should I make a liar out of a child? This just flabbergasted me to think these kids will just go home and lie...

Instructor: Are you making a liar out of the kid?

Student: Certainly if he told the parents you are not helping him...

Instructor: Well, wait. Let's think that expression through. Are you making a liar out of him or is he making a liar out of himself?

Student: Well, he's making one of himself, you're right.

Instructor: Maybe the boy is defending himself in this way.

Student: If only one day he got through, he had his hand up and you didn't answer.

Instructor: Now the other point here. Let's not take everything so seriously. You can even make a little joke out of some of these things. You see. What I'm trying to get you to feel here is to befriend these parents. You're not up there push-pulling these parents. Here we are two friendly, faithful people working together for the good of the child. We may not see things the same way. Let's see if we can't do something for the situation.

You don't say anything about a child unless you can back it up. You don't want to bare your information or opinion, anecdotal records, etc.

Do not compare the child with any specific kid, especially in his own family. If the parent tries to do it, see if you can steer one parent out by comparing that child with his own abilities.

You don't try to fix blame for anything. You try to find out possible causes and deal with them.

Try to get parents to develop an inquiring attitude if they can. If they can, or if they offer any suggestions, see if you can accept them as well as offer them.

Watch your professional vocabulary. On the other hand, watch their faces and be sure you're not talking down to them. One of the criticisms parents often make about teachers is that they act as though the parent was the child. Watch vocabulary, but don't talk down.

Remember that parents cannot be objective about their own children.

Try not to have ready-made conclusions. See if you can get the parents to do some of their thinking.

Certainly keep confidences. And here you can get into a variety of problems by letting the parent say too much.

You may find that Momma takes it out on the old man. A constructive role is the important thing.

Now, some of the kinds of questions in parent conferences are these:

> Social Development: Does he get along well at home? Does he accept responsibility? Does he share with other people? Does he take good care of his belongings? Can he follow directions? What does he like to do at home? What does he read? What are his interests about school, what does he like?
>
> Emotional Development: Do you know of any special fear, jealousies, or others? Sibling rivalry, allergies, psychosomatic problems of other kinds?...

Does he worry about home or school problems? Does he have confidence in his own ability? Does he have friends in his neighborhood? Speech problems, eating, resting, exercise, rheumatic fever, adenoids, etc.

Does he need special medical attention at home or school? What are his strong points? Now if you come around with a few questions of this type, you're going to find out more than you give...

Student: Should you take down notes of what they say?

Instructor: What do you think?

Student: I don't know, unless you have a check list...

Instructor: You are always on a tight wire here...You don't want to be too directive or not directive enough. It's the feel of it. One last point. One more thing you want to make sure of, that nobody else is listening in. I had an embarrassing thing happen on that last fall. A group of teachers who were going to a class suddenly found out the principal had been listening. Big Brother was around. You can't confer with kids wandering around a teacher. And when you are talking about taking notes, perhaps that would interfer. This is between you and Momma or Papa or both.

Student: Should records be kept?

Instructor: You might keep some factual information. With our kids we never had a teacher-parent conference...

The listings of concepts to keep in mind in relationships with parents are direct and obvious. Direct, too, is the instructor's voicing of opinion, advice, and what he is trying to get the students to feel. Thus, "Let's not take everything so seriously. You can even make a little joke out of some of these things. You see. What I'm trying to get you to feel here is to befriend these parents. Here we are two friendly, faithful people working together for the good of the child..."

There are many variations and departures from the kind of concept-centered dynamics epitomized and illustrated here. There were student visitations in schools, student demonstrations, and committee presentations. There were class meetings in which the instructor spoke little. Usually, however, he was very much in the center of the stage as active lecturer, questioner, and enthusiastic advocate of scholarly, humane, and democratic school and human relations practices. From time to time there was reflection of student expression, but generally there are abundant illustrations of a dialogue of a semi-Socratic nature, with the instructor being certain to convey what he perceived as the key concepts. Frequently this movement toward instructor expression was so determined that even when he asked questions he would wait only a few seconds for the replies before moving on with his discourse or questions.

The concept-centered instructor knows what it is he wishes to "teach" his students and he does so directly. He relies on the meaning (cognitive, although not divorced from emotions) of the concepts, principles, and opinions as basic to what students learn. He tries to draw in his students to become involved in reflections about the theoretical and practical meaning of the content he presents. He says what he feels to be central for the educative process and even as he does so, he utilizes what he has said for purposes of reflection. It is fitting, perhaps, to offer as a final excerpt his presentation of a concept, his expressed belief that it would be important for others (to the point of "ought"), and his attempt to stimulate reflection.

> "This idea of respect for each child is a central thing in this course. It ought to be central in our philosophy. I wonder what I mean when I say that. Respect for each child. What is that?"

A Case Study Approach

History and Backdrop

The development, analysis, and use of case studies as a teaching tool and technique has been applied broadly in the teaching of college and university courses in psychology, social work, home economics, and education. Since the early 1920's, state university extension divisions, experimental stations, and various privately sponsored childhood research groups have built their efforts upon a case study foundation. Child study centers, psychological clinics and agencies, early childhood educational centers, and schools have utilized and refined the case study approach for deepened and functional childhood meanings.

The case study method of child study has its roots in the early attempts to follow, scientifically, the nature of development. Significant research began at Harvard University in 1872 when H. P. Bowditch began a twenty-five year study in which he annually measured the growth in height of twelve males and twelve females. Three more long-range studies of children followed at Harvard. In various ways the work of G. Stanley Hall, Arnold Gesell, and Sigmund Freud contributed to the burgeoning research efforts devoted to a comprehensive grasp of the meaning of childhood growth, its measurements, patterns and dynamics.

The case study method as a major technique for teacher understanding of children's growth and development was greatly stimulated by the work of the Commission on Teacher Education of the American Council on Education. Beginning in 1939, under the leadership of Daniel A. Prescott, the Commission on Teacher Education launched a program to synthesize prevailing findings on the growth and development of children and to seek fresh understanding. Working from this base, Prescott and his workers used the workshop child study approach to promote the understanding of children by teachers, administrators, and other school personnel. Thus a group of teachers and others from a specific school or district would work with a trained leader to refine their competencies in the observation, description, and interpretation of children's behavior as they concentrated upon individual child case study material. The Commission's staff on Child Development and Teacher Personnel then produced the book, Helping Teachers Understand Children. In it, the child study method used by teachers is described in detail, cases are used as illustrative, and implications for teaching are indicated.

By 1957, some 40,000 persons had completed three or more years of child study owrk under the leadership of Prescott and his staff at the Institute for Child Study at the University of Maryland. Prescott's book, The child in the Educative Process, elaborates a more total meaning of child study for teachers. Emphasis is placed upon the meaning of understanding children, the educative process and its philosophical and scientific bases, the nature and shaping of human development, and the changing educative process in our times.

The focus on case studies of children is premised on the belief that through the study of individual children, in light of their particular life histories, the principles and patterns of children's growth will be more sharply, more realistically revealed. So, too, as the complexity of an individual child is revealed, the social, emotional, physical, and intellectual patterns of child development may be studied intensively as aspects of the whole child. The study of the individual child, in a case study context, may lead to a deepened appreciation of the uniqueness of each child and the particularity of his growth and developmental process.

The emphasis is focused persistently upon the child through the case study material presented by students and instructor. Students are encouraged to use direct references to children they have observed to support their generalizations relevant to the child's needs, purposes, growth patterns, and problems. Facets of the case histories and their meanings in classroom interaction are utilized by the instructor to highlight educational process. In this way, too, the various influences of the primary family group, and cultural and socioeconomic factors are distinguishable and can be studied effectively. Where possible, students are encouraged to wonder about and to attempt to extrapolate the implications of the case study materials for insights about their own growth aspects and patterns and personality dynamics.

Goals

The over-all goal of this approach is to develop in the student a comprehensive understanding of children's growth and development. It is assumed that such understanding builds the cognitive understructure for deepened understanding of learning in the educational situation as well as enhanced appreciation of the teacher's task and relationship to children in the classroom. In describing his own aims as he taught in the case study approach, the instructor outlined these points:

1. I try to teach the individual.
2. I hold the student responsible to learn certain information of the course.
3. I hope I can get each student to the point where:
    a. he has a pretty good knowledge of developmental tasks.
    b. he is sensitive to the fact that the individual pupils with which he will be working will not fit into the patterns we might expect as we read general descriptions from the research.
    c. he has an understanding of the principles of development.
    d. he can be concerned with the individual and where he happens to be.
    e. the knowledge he gains will help him to become a better teacher, able to modify methods and present subject matter in such a way that the individual children he teaches will be able to partake of this instructional pattern.
    f. he can work with his pupils the way I would like to think that I should work in teaching students.

   g. he has learned certain basic information about human development by using case studies.

4. Specifically, my desire to teach students this basic information about human development by using case studies is to make them very much aware of the individual point that the youngsters might be at in their growth along various developmental lines. I would hope they will have a certain amount of common information and a certain outlook of sensitivity to individuals--the latter being the chief general objective.

Theoretical Frame of Reference

Case study approach advocates and practitioners do not appear to have a commonly held frame of reference from which they launch their teaching attempts. Many psychiatrists, psychologists, and social workers tend toward use of the Freudian psychoanalytic theory as an orientation and interpretive tool. Prescott appears to hold a humanistic frame of reference which is an integration of religio-philosophical-ethical and scientific assumptions. He utilizes the theoretical support of Erich Fromm, Max Planck, Lecomte Du Nouy, J. W. N. Sullivan, A. N. Whitehead, E. W. Sinnott, Albert Schweitzer, and the Judaeo-Christian religious tradition.

The Wisconsin project's case study approach instructor did not work from any particular general theory of personality or behavior. He did not identify himself with Freudianism, Gestaltism, humanism, or perceptual theory. He appeared to work eclectically as he drew from various learning viewpoints to highlight the use of the case study as a way of helping students to understand the child, his growth patterns and their meaning for the teaching relationship.

Learning Situation Rationale

The persistent emphasis upon the crucial role of the foundational case study and its implications for the nature of children appears to have determined the very rationale of the teaching situation. Thus the instructor said to his class at the outset of the course:

> ...We are going to attempt to concentrate upon the study of human development in the life span, using the case approach so that in the very beginning of the work we will try to understand what we mean by the case approach, to figure out what elements go into the accumulation of information about a person to result in a case approach study of an individual. To do this we will probably have some examples of cases. I hope you will work at setting up cases on every level as we go along. As we study individuals I hope we will learn some of the principles of human development and find out how people vary from the norm so that if we are working with a youngster with a certain kind of physical or social develop-

> ment we will try to discover his appropriate behavior. So we will have to start at the very beginning to talk about how you might assemble information to create cases. We are looking at this with the idea that you are going to be teachers in the elementary grades and attempt to get you acquainted with the way in which human beings develop...

The strong emphasis upon the individual is clearly evident in the following comment of the instructor:

> ...If you have a better ability to understand people as individuals and can focus your attention upon them it is hoped that you will be able to modify your teaching methods so that you will become much more effective as you learn that you are not all alike. You are all individuals, very distinctly. Some of you are learning right now, some of you are not. You are looking out the window, sleeping, thinking, planning. Perhaps you do not learn as effectively, individually, from the spoken word. Some of you might do most of your learning through reading, others through seeing pictures. What we are trying to do here is to look at people and find if individuals will vary each from the other. Yet, there are certain common developmental tasks they all exhibit.

This approach does not lend itself to any particular "learning situation rationale" because it neither works out of a particular behavioral frame of reference or specific learning theory. It is obvious that a respect for the individuality of learning, as well as a stress on the learning of principles and generalizations, are central.

Description of Instructor Classroom Behavior

The case study approach instructor's behavior reveals two pervasive, intermingling themes. He sets the direction and format of the course and he emphasizes heavily the individuality of children and, in fact, of all human beings. He is clearly teacher-centered as he leads and controls the class movements. He focuses on placing before students the class materials he feels illustrative and in requiring and encouraging students to discover, develop, and refine their own case study material.

I

The instructor, in establishing the nature of class meetings, relates to the class in an instructor-centered manner, setting forth the central meaning of the course, goals he expects his students to achieve, and the learning patterns they are to follow. The interrelationship of this kind of direction with the case study emphasis may be seen in the very first words of the first class meeting.

Instructor: Why don't you move up so we can all be together. Education 73. I'm Mr. _______. This is the title we invented many years ago. But it could be written in just four letters--kids. That's what we are going to be talking about and in order to get started on that let's look at a kid right away. I have enough copies here for all of you. Let's look at this little girl by the name of Rachel. We pick her up as she enters the first grade and we look at her progress through grades one through six, and then I'll tell you a little bit what she was like when she graduated from high school. While we're looking at it, let's see if we can get a picture of Rachel so that we think we know her quite well, and then I'm going to ask you what might have been done to help Rachel to become a more successful, happy person or whatever you want.

Thereupon follows a loose 14-minute presentation of the study of Rachel. The instructor commented along the way. His tendency to identify and locate for the students what he felt to be focal learning points is illustrated in the following comment during the presentation of the case of Rachel:

> ...notice this is the spot where Rachel's problem is. She began school in another district in mid-year. When she transferred to this school she had the opportunity to begin the second grade or repeat the first, and someone chose the latter. She went through elementary school, thus slightly advanced chronologically. You know what that means? She was older than the other youngsters all the way through.

The instructor appears to have spotted for the student the source, as he saw it, of Rachel's difficulties.

The leading-on nature of the question-answer kind of discussion carried on after the presentation of the case is typical of many such discussions through the year. The instructor is very much the directive leader in moving the students' thinking.

Instructor: ...In kindergarten or first grade, she was more dependent and less self-reliant than the average. Happier being waited on than when doing it herself. By the time she is a sixth grader, she is normally independent. This is one of the things we ought to be achieving in the case of Rachel. Is this a good move? Normal, is it? You want her to be dependent, or shouldn't she by this time be more independent?

Student: I have a question on this. It depends on the appropriate situation.

Instructor: Such as, can you think of what that might be? Does she have to wait for the traffic boy to come and signal her across the street in the appropriate situation?...Why would you want her to be independent in the sixth grade? Can you think of any situations?

Student: Oh, in choosing some of her clothes.

Instructor: Choosing some of her clothes. You put the some in there purposely.

Student: Yes, I wouldn't like her to choose all of them.

Instructor: You wouldn't trust a sixth grader to choose all of her clothes. Think of school situations if you can remember them. What would be a situation in which you would expect her to be independent? Yes?

Student: By being creative in what she was doing in her work, if she was doing something in art perhaps. Just let her expand on what she was doing, without having to be told to do this and that.

Instructor: Fine, another one? In other words, you think...this is a desirable change on the part of Rachel...Remember when we see her in the first grade she was shy, reserved, never--extremely inhibited emotionally. Now, as we see her in the sixth grade, normally expressive, reserved around some people, but not around others. Certain feelings aren't expressed, and kept to herself. Is this good? To move her away from that extreme reserve, never express her feelings, inhibited to normal expressiveness, reserved around some people. Is that good? What do you think? Are there people which she should be reserved around?...The principal, for example? The preacher? Who else? This isn't a desirable change then, is it? To be reserved around some people? Why should she be reserved around some people? Shouldn't she be expressive around all people?

Student: Well, does that mean she's showing respect toward them? I mean, you have a more respectful attitude towards a principal than you would towards maybe your mother or sister.

Instructor: Why?

Student: Oh, I don't know, they have more prestige or something.

Instructor: ...Do you agree with the letter here, that this is a desirable change? You want her to behave more reserved around some people and not around others. This is your little girl, your daughter, is that the way you want her to be? After six years of school? By reserved, do you mean just being polite, or do you mean clamming up and not saying anything?

What do you think? Reserved? Respectful, some people would say?

Student: Well, for me, reserved connotes a certain honesty. I mean, if you're very, very effervescent to everybody, it seems to me that you just couldn't mean all that and I feel there's got to be a little reserve. The only way I think any normal people or person should be.

Instructor: You're suggesting that a desirable goal is to make youngsters changeable so that they're expressive towards some people and not to others. This is a desirable thing, when we get these kids in first grade, and they're extremely reserved, what we should be doing is to try and teach them to be reserved in some cases and not in others. This is good, is it?

Student: Yes.

Again, the very way of beginning and carrying on the first class meeting of the second semester denotes the manner of setting the direction and controlling the nature of the discussion that follows. The instructor called upon individual students to explain the causation, meaning, and mode of handling certain behavioral characteristics. His questions are directly to the point as he inquires of students about the relation of a mother under psychiatric care to the child's behavior, about the reasons for one family member to be shy and the other outgoing, about the reasons for the non-squirming nature of a second-grader, and the meaning of poor coordination and number skill in the same child. In the case of the child who does not squirm, the instructor questions until he forces the student on making some kind of response to the meaning this characteristic would have when the child is being taught. Immediately, as the class begins, the instructor points the direction.

Instructor: Want to look over those for just a minute. I've made notes on each of them and I want you each to tell me, tell the group, something about these cases. You might need a few minutes to recall what you wrote.

(A 28-second silence follows.)

What we all want to do, of course, this semester is to look into the whole problem of learning. But, as you are well aware, you don't do much about learning without looking at the kind of person who is doing the learning. So, as I went through each of your case-study reports, I made some notes, which I thought illustrated some of the problems you're going to meet getting these youngsters to learn. Well, let's see, Miss _______, you have a sixth grader. You made some comments on concentration. Can you remember them? Can you look it up there and tell us what's involved there?

Student: She seems to have trouble concentrating. She says of herself, "When listening, I try to listen, but think of something else. Other times I hear everything."

Instructor: She didn't seem to be concentrating...Now you said something about her mother. Could we tie up the two, do you suppose?

Student: Her mother pushed her in art, and that was her best subject. It would seem her mother would encourage her in the other subjects. When she came to school they talked to her about the other subjects and she was withdrawn and they were very concerned about it.

Instructor: Then you mentioned that her mother was under psychiatric care. Did you see any possible relationship there?

Student: Probably, maybe some connection.

Instructor: And...

Student: ...although she had a sister in the same school who was quite outgoing. A good student, a very good student.

Instructor: How would you account for the fact that two students in the same family, one is shy--you used the word shy--and the other outgoing? How come?

Student: Different children...maybe difference in age.

Instructor: Or...

Student: Difference in size...an extremely big girl...weighed 75 pounds when she entered kindergarten. Right now she weighs 120 something. Much, much bigger than the other children. That's why she kept in the background...quiet. Because she realizes her size automatically.

Instructor:	I noted here you had a good chart. I wondered what that was.
Student:	I charted the difference between her height and weight and the norms. There's a great difference.
Instructor:	Well, just look. This little girl has come here to learn and look at all the factors operating against her. There's the problem of concentration. Matter of fact that she's shy. This unusual size. A mother under psychiatric care. All those factors you have to consider in providing a good learning situation for her. Now jump to another one where there is, it seems to me, considerable difference. Miss _______, you have a first grader...

II

The nature of instruction utilized by the case study-centered instructor included a variety of methods and expressions of himself. He might lecture during all or most of the class meeting time, encourage class demonstrations of teaching techniques, serve as devil's advocate to spur reflection, voice his own social concerns, comment feelingly upon the failures of higher education or exhort a personal point of view. The instructor aimed directly at involvement of the students, especially as they could observe children and learning situations and have their own experiences in the development of an understanding of children.

Typically, he began with a lecture, case illustration, commentary or a very provocative opening question, and then opened the way for questions and discussions. As he pursued the discussion--much of it question and answer between instructor and student--the instructor pointed the discussion in directions he deemed vital for the students. Specific assignments were made and reminders of due dates and the need for scholarly work were offered. For him much of the ongoing verbal interaction was played by ear. He moved humorously, intellectually, ironically, dubiously and, at times, strongly idealistically. He challenged, provoked, stimulated, questioned, warned, chided, prodded, and advocated. He dropped asides of wisdom, anecdotal material meaningful to him, and tried especially to reach out for effective communication when he wished to impress upon the students the need for parents and teachers to be living models for what they expect of children.

III

The dominant role of the instructor is in the direct structuring of the experiences he feels desirable, while nevertheless encouraging student participation. For instance, in assigning his students to watch a television kinescope of a seventh grade mathematics class, the directions are explicit as to what he expects the students to observe. Moreover, he points to specific aspects of what might be observed and upon which their reports might be based. Thus, the instructor suggests attention to whether children's attitudes toward the teacher were positive, negative, or neutral. On the other hand, he suggests, "Try to leave out the personality of the teacher," as he leads students to observations about the subject matter and how the children feel about it. This is not to suggest that there is an authoritarian directiveness about the instructor's approach. It is simply obvious that he suggests strongly what he feels will constitute the richest experience for the student. Thus, he says:

> Now, if you would prefer...I think it might be interesting for you to...start your observation by spotting one youngster at the beginning of the class and watch him all the way through. This would be a very good experience for you.

This predilection towards the structuring of the student experience appears again in the instructor's introduction to a class demonstration:

> As you are aware, there are many different kinds of learning. There are skills, concept learning, and so forth, and we'll take a little discussion of each of these as we go along. The other day on our tape recorder demonstration it was a little combination of both. I wanted one to illustrate a kind of learning where no physical skills are basically involved. And is that what you have, Miss _______? When you're listening to her, why don't you try to think of yourself as what we call an introspector--how do I personally feel about this situation?--and you may want to make a few notes. I will try to introspect to see what my reaction to it is as it goes along. Why don't you do this, too? In other words, try to place yourself in the position of a pupil in a class. The teacher now is going to teach us something...

A student then presented a Spanish lesson as she might to a regular class of pupils. Immediately after the 10-minute demonstration it is the instructor who launches the discussion. As can be seen, he utilizes a variety of methods in his attempt to make the situation after the demonstration a meaningful one for the students. He appears to exaggerate, irritate, ridicule, and utilize humor to make his criticisms and suggestions felt and to promote reaction within the class about the demonstration and its educational meanings:

> That's enough. We can ask you others if we have some ideas. I was sitting in this class and I don't give a darn about learning. I don't ever intend to go to Mexico, so I don't care. Anyway I heard that if you go to Mexico people talk English anyway. And

> These people speak Spanish and you've learned only college Spanish. You can't order a meal and you'll starve to death.
>
> You didn't get me interested at all. I wanted to know where the golf course was. You didn't help me at all. And then she asked some questions about whether I wanted to ask anything and I don't want to. I'm a shy kid...So I don't know if I got a darned thing out of this. Now this is what I wanted you to do to throw a little perspective. Anybody else want to do it? How did you react? Mine is negative, but, of course, I put on a little act. Go ahead.

The discussion following is instructive as to the instructor's shaping of the direction he feels significant for the learning to accrue from the situation. After two student responses he says, "What I am trying to get at is your feeling there." Thereafter he comments upon each student response. The students combined to speak a total of nine times. The instructor spoke ten times. The discussion follows:

Student: I think she started out by presupposing just a little bit too much. I happen to know Spanish, but for a person who never heard Spanish words before, who never had any contact with a foreign language...

Instructor: Let me ask you for a minute, what about your own feelings there? Since you knew it. How did you feel when she started here? This is old stuff, this is too easy.

Student: And another thing. I think she gave an example of... technical correction of teacher.

Instructor: What I'm trying to get at is your feeling there. You were sort of critical of her as she was going along. You thought she wasn't doing it right. That was your own personal feeling. What went on in your head when she started out? There are thirty individuals in front of you. What's going on inside their little heads? Now this is what I want. We get the general later. But personally, how did you feel? Yes.

Student: I remember having Spanish and I got the first two phrases she said, and then she started to go a little too fast for me. I was trying to remember.

Instructor: You're just a slow learner. (Loud laughter)

Student: I couldn't quite get it into my head what she meant and be able to pronounce it...

Instructor: Is there anyone who felt the opposite? That you could absorb it? A fast worker. Anyone who remembered everything she taught? I expect there are great differences. If you gave us a test now, there'd be quite a difference. Depending on what kind of people we are.

Student: Quite a few of us have had Spanish.

Instructor: How many have had Spanish? Quite a few. Well, this is what we're always going to run into, I guess. But I suppose what you're pointing up is we really ought to find out from the class how much background they've had. From those of you who did have Spanish, what was your feeling? Kids have feelings when you start to teach them something--they really do. I'm trying to make you sensitive to those. I think one way to do it is to see your own feelings.

Student: ...tried to see if I could remember anything from high school.

Instructor: Anybody have it recently in college?

Student: I'm taking it right now. We just had the lesson two days ago.

Instructor: Then what was your feeling when she said this was first year Spanish?

Student: I was immediately very interested.

Instructor: In effect, you were quite the opposite from me, at least as I posed myself. I don't care about this stuff. Who cares about Spanish? So in our small group here are two people at opposite ends of the pole. I'm putting on an act, I really was interested. Well, more feelings. You must have had some feelings while this was going on. Yes?

Student: I was interested. I always wanted to learn Spanish. I've also had French, and every time you said something I also said that in French. And I started out all right and then...threw me off. I had a previous interest... always wanted to learn it.

Instructor: You always wanted to, and here's a teacher with a real need you had. What previous experience was preventing you as it was me? I don't quite understand your explanation. Why, when I think of a Japanese word, I often substitute a French word. There are attempts. Other people have this same difficulty. Why, I don't know. French was learned first. Now, struggling for a

Japanese word, I'll use French. How was your feeling about the explanation of the vowels?

Instructor: We've had a little bit of skill learning, language learning. Now, how about a little idea learning? Well, you be thinking about it. We'll see you on Monday.

Now and again the instructor would present material which he used as a basis for a discourse involving deeply felt views he had on the individual learner, the needs of the school, and the foibles of the culture. He would lecture directly on the kind of teacher and teaching deeply needed by children in school. In this approach there are overtones of exhortation and moralizing. The warm-felt personal values and concern for the rights of children are manifest. A prime illustration of this approach occurred at a class meeting which begun with a pointed introduction on the relationships of teachers with pupils:

> Let me take some time today to talk about relationships of teachers with pupils. I think this is very important because very soon you will be in a classroom and you will have a chance to see what I am talking about in action. Also, of course, I'm working on the attitudes you will display that may have some influence on the behavior of the youngsters. One of the schools of psychology for many years has used the word "tendsters." And what they mean by this, taking away all the technical language they use, is that children tend to take on the characteristics of the adults they are exposed to. Someone put it this way: Jimmy is a chip off the old block, not because he was knocked off, but because he knocked the wrong way. The kind of behavior that you exhibit in the presence of youngsters is rightly to be reflected in their behavior. To show how this works out, I have taken a few paragraphs, and I can read them to you and you will see how they illustrate this point, the influence of the teachers on the behavior of the children. By the way, when I talk about behavior here, I'm not necessarily talking about good and bad behavior--just behavior in the ordinary sense of the word, the way the children act and talk. Behavior in general.

Other excerpts from his lengthy discourse follow:

> You don't have to have teachers if their function is going to be simply filling in the containers. Good teachers recognize that all kids have a sense of humor...And notice also they have very human feelings with respect to failure. We say nothing succeeds like success, but nothing fails as dismally as failure. Youngsters constantly exposed to failure are not likely to be very satisfactory persons. So you face them with this attitude then: Sure they like fun, and you also face them with the idea that they will respond better to praise and to humor than they will do to harshness and ridicule.

> And one of the things you will always as teachers start off with--the idea that no two kids are alike. And I know we harp on this too much, perhaps, but the problem is the most important thing you will probably learn as a teacher--that there are no two alike... and I hope you will not start with the idea that children are born out of sin, that they're innately bad. And it's your job to knock the devil out of them. I hope you won't start that way. I don't believe this is true. You're going to recognize them as persons who are neither good nor bad, that the goodness or badness is simply a function of the situation in which they have exposed.
>
> And then I hope you won't start with this one. And this is very common. That you have to treat children in the same way that they have always been treated before. Because they don't know any other language. This is very common in underprivileged areas, where you will find the teacher feeling that she has to yell at the children; and to scold and to punish. Then you ask her about it. She says, "Well, that's the only language they know." If that's the only language they know, for heaven's sake let's take the time they have in school and teach them a new language. If they know no other language but brutality and harshness, and scolding and punishment and misery, let's earn the five hours a day we have in school and teach them there is another language--one of kindness, understanding, helpfulness. This is no excuse, it seems to me, for harsh treatment of youngsters, or of extreme unkindness, or for excessive scolding and so forth. Youngsters are more likely to learn their long division or geography of South America, or whatever it is you're trying to teach them, they're likely to learn much better, if you provide the kind of environment suggestive of what I have said here today...
>
> Well, that's a little more lecturing to you than I usually intend to do, no one of you have spoken almost this whole hour, but I wanted to get this in as part of my point of view to start things off...

Viewed in its over-all meaning, the case study approach is more technically the case study approach as it is presented by this particular instructor in the context of his own philosophy of education and within the boundaries of his direction. Unquestionably, the case study is a dominant instructor motif; he stresses it, presses forward with it, and utilizes it as a central course dynamic. Yet it is difficult to bypass the rich tape-recorded excerpted material which illustrates the many other emphases introduced by the instructor. Perhaps the more fitting central emphasis is that of the pervasive play upon the individual differences of children. While technically the case study as an assessing and teaching instrument provides the frame of reference in which the individuality of children may be studied and understood, the total expression of the students does not appear to indicate the case study as the most significant vehicle of learning. The instructor actually devotes more of his verbal communication to the unsurpassing significance of perceiving the child as an individual.

The stress on the individuality of each child and on the crucial need (as expressed by the instructor) for the generalizations about children to be concretized in the being of a specific here-and-now child does not appear as a basic dynamic in the interpersonal classroom exchanges between instructor and students. The taped material provides abundant evidence of the direct, controlling nature of the instructor's teaching approach. In control of the class movement, he places before students case study material and helps them to understand and interpret their meanings for the growth of the individual child as a person and as learner. He simply assumes the case study method to be the most effective way to study children and he implements that fundamental tenet.

IV

The emphasis, illustration, and even dramatization of the individuality of children are the major learning factors utilized by this instructor employing the case study approach. Over and over again he emphasizes the meaningfulness of generalizations about children only as they apply to individual "kids" and are perceived and understood only in the context of their realization in the being and behavior of a real child experienced by the student.

The emphasis upon the particular child and the need for an accurate description and understanding of him is unremitting. After some seven months of meeting with his class the instructor specified precisely what he desired in the students' case studies and in so doing, of course, highlighted the nature of the individual child:

> In talking about the case that you're going to write on...I would be interested in knowing: Does he mix well with other youngsters? Does he seem to like people? Do they seem to like him? How does his teacher respond to him? Does he meet new people easily? Is he friendly? Is he an isolate? A reject? Can he carry on activities with others? This is the kind of thing, and when I use this expression I'm just assuming that you never get completely consistent behavior from a youngster. He'll vary from time to time. But, usually, what kind of a kid is he? Now you can color this very well with descriptions, and I would hope that you would elaborate with examples, giving generally that effect...And then I would like to know something about what are his usual levels of performance. And again, there might be significant differences... I would want to get some idea of what he does regularly besides classes. Outside on the playground if you can get it, or in clubs or organizations, and so forth. And then I would be looking at what is outstanding about this pupil...what is it that differentiates him from all other kids in the class? It may be a quirk, it may be unusual performance, it may be that he is especially popular or withdrawn...Then I would like to know how flexible he

> is. How adjustable. Does he tend to be the same from day to day? In a sense, how good a learner is he? Does he learn new things? Some of you pointed out that on the six weeks papers some of the students just hadn't changed at all, despite the efforts of the teacher. How effectively has he learned? Has he changed during the time you observed him? Has he developed? Has he made any changes in his usual behavior? How adjustable is he? And then, what assets are there in his...environment? Does he come from a home that is very rich, or vice versa?...has the kid had unusual travel opportunities? Looking for the positive there, have they taken care of him with respect to having glasses? Does he get adequate medical and dental care? This sort of thing...I'm looking for the positive things here, and then, of course, what hinders him? What health, vision, insufficient motivation is stimulated in the home? Too many children in the family, competition with an older brother or sister. I guess that's about all I can think of for the moment. What handicaps? These are the kinds of things that I would be looking for in a case study when you write it up. And, of course, I would be looking, examining, what's outstanding about this person? What is it that makes him different from all the other kids you've ever seen at that grade level? Look, don't use this an an outline. These are the kind of things I would be looking at. And I hope you can use examples all the way through...

The many kinds of observations are all channeled toward the discovery of the nature of the individual child. The instructor includes in the midst of this extended list of characteristics to be observed" ...what is it that differentiates him from all the other kids in the class?"

Holding central the emphasis upon the individual child, the instructor achieves the transition from the first semester course (The Child: His Nature and His Needs) to the second semester course (The Nature and Direction of Learning) by changing the focus to the child as learner. The case study is the vehicle for the study of the child as developing organism or as learner in the classroom. On the day he announced the second major case study assignment ("I do want you to do another case study similar to the one--somewhat similar--to the one you did before"), he commented:

> Now in Ed. 73 -- I like to think of it this way. In Ed. 73 you're taking this child as a person, but this time--he's still a person, of course--but this time he's a learner in a classroom.

Thereupon he specified his views on the assignment and stressed once again the individuality of the child.

> ...This would mean that you would make frequent references to him as a learner. You will have to observe him, and some of you have already done that, although not very well according to your six weeks' examination. You have observed him as a concept learner,

> as a skill learner and as an attitude learner...You do want to make this case study a highlighting of individuality. What is it that distinguishes this youngster from all others? But haven't you found that each one expresses his interest in a different fashion? In greater depth? In various ways? One does it orally, one does it in writing, one does it in painting, one does it working more with his contemporaries, and so on...sure I've talked to a couple of hundred bright kids this year, and yet on paper--many of them on paper as far as tests go and so forth, and their grade records, they look very much alike, but when you sit down with them, every one is just so different, so different. And for each one, you can say something that applies to that youngster that applies to no other one of those you worked with. Isn't this true? You see, you walk up the hill to this class, and two or three hundred people pass you. Yet of all those hundreds you see one face, and you smile and say hello, and that person means--well, he's just different from all the others... I hope that you get this concept by reading some of the cases of the elementary school child. Notice that all of these youngsters are within the normal range of intelligence, normal range in health, normal range in physical development, and so on. Yet each one of them is so different.
>
> Well, this is what I would expect you to bring out--highlight the individuality. In what way or sense is Jimmy different from all the other Jimmies that ever existed? And this might mean, of course, that you will have to do more than just observe him; I suppose you would have a little talk with him, you would study his records.

Clearly, the instructor leads and controls the class even while he allows a limited range of individual student expression and behavior so long as class members adhere to the basic themes, assignment, and format.

In a teaching approach emphasizing the fact of the individuality of the child, the instructor himself emerges as the striking, dominant individual in the continuous classroom dynamics.

The Learner-Centered Approach

History and Backdrop

The learner-centered approach (known also as non-directive, group-centered, or student-centered teaching) appeared almost abruptly in the early 1940's in the wake of the introduction of Carl R. Rogers' theory and practice of what was then titled "non-directive counseling." The apparent success of this approach in the counseling relationship spurred Rogers and others to experiment with it in the teaching situation.

Advocates and practitioners of the learner-centered approach have not, for the most part, specified historical sources of influence. Educational historians may be tempted to find well-spring in varying religious and philosophical positions. Jean-Jacques Rousseau, Johann Basedov, Johann Pestalozzi, and Friedrich Froebel are regarded as likely progenitors. The tenuousness and difficulty of tracing the historical origins of this educational position is singularly indicated by Rogers' rejection of a commonly held belief that he drew inspiration from Rousseau.[6] Rogers did his graduate work at Teachers College, Columbia University, and has said,

> ...In one sense our experience is a rediscovery of effective principles which have been stated by Dewey, Kilpatrick, and many others, and a rediscovery of effective practices which have certainly been discovered over and over again by competent teachers.[7]

In the main, however, the learner-centered approach implemented in the Wisconsin Project derived its thrust, basic assumptions, and further stimulation from psycho-therapeutic theory and practice. Rogers and his followers discovered the efficacy of non-directive principles in the educational situation independently of others who were emphasizing the merits of like principles deriving from varying theoretical bases. Other pioneers included Nathaniel Cantor, Earl Kelley, Donald Arthur, Arthur W. Snygg and Donald Combs, August Aichorn, and A. S. Neill. In brief, these men all believe in the essentially positive direction of growth in the individual if he is presented with a climate of trust, acceptance, respect, and love.

Goals

Learner-centered educational goals are postulated upon a democratic base. Specifically, this means the growth of students as individuals

> who are able to take self-initiated action and to be responsible for those actions;

---

[6] Carl R. Rogers, "A Note on the Nature of Man," Journal of Consulting Psychology, 1957, Vol. 4, No. 3, p. 200. "I certainly do not think myself as being in any sense a follower of Rousseau. I can testify that at least there has been no direct influence. My only personal contact with Rousseau's work was the required reading of his Emile for my doctoral language examination.

[7] __________. Client-Centered Therapy (Boston: Houghton-Mifflin, 1951), p. 386.

> who are capable of intelligent choice and self-direction;
>
> who are critical learners, able to evaluate the contributions made by others;
>
> who have acquired knowledge relevant to the solution of problems;
>
> who even more importantly are able to adapt flexibly and intelligently to new problem situations;
>
> who internalize an adaptive mode of approach to problems, utilizing all pertinent experience freely and creatively;
>
> who are able to cooperate effectively with others in these various activities;
>
> who work, not for the approval of others, but in terms of their own socialized purposes.[8]

Theoretical Frame of Reference

The learner-centered approach derives its theoretical rationale from Rogers' comprehensive "A theory of Therapy, Personality and Interpersonal Relationships as Developed in the Client-Centered Framework."[9] Within that framework, education and learning are instances of behavioral change possibilities when the basic client-centered conditions of growth are operative. Central and integral to the client-centered point of view is a profound belief and trust in the capacity and desire of the individual to actualize, differentiate, and enhance himself organismically. This kind of growth is facilitated in a relationship characterized by genuineness in the communication of unconditional positive regard and accurate empathy. When effective, this kind of relationship is productive of personality change wherein:

> The person comes to see himself differently.
>
> He accepts himself and his feelings more fully.
>
> He becomes more self-confident and self-directing.
>
> He becomes more the person he would like to be.

---

[8] *Ibid.*, pp. 387-88.

[9] S. Koch (Ed.), *Psychology: A Study of a Science*, Vol. III; Formulations of the Person and the Social Context (New York: McGraw Hill, 1959).

> He becomes more flexible, less rigid, in his perceptions.
>
> He adopts more realistic goals for himself.
>
> He behaves in a more mature fashion.
>
> He changes his maladjustive behaviors, even such a long-established one as chronic alcoholism.
>
> He becomes more acceptant of others.
>
> He becomes more open to the evidence both to what is going on outside of himself, and to what is going on inside of himself.
>
> He changes in his basic personality characteristics, in constructive ways.[10]

The frame of reference providing both grounding and functional hypotheses for the learner-centered approach is an integration of four over-arching theories; a Theory of Therapy and Personality Change; a Theory of Personality Growth and Dynamics; a Theory of Interpersonal Relationships; and a Theory of the Fully Functioning Persons.[11]

Central to all of the theories are the concepts of experience (experiencing organism), the self, and congruence.

1. Experience (noun). This term is used to include all that is going on within the envelope of the organism at any given moment which is potentially available to awareness. It includes events of which the individual is unaware, as well as all the phenomena which are in consciousness. Thus it includes the psychological aspects of hunger, even though the individual may be so fascinated by his work or play that he is completely unaware of the hunger; it includes the impact of sights and sounds and smells on the organism, even though these are not in the focus of attention. It includes the influence of memory and past experience, as these are active in the moment, in restricting or broadening the meaning given to various stimuli. It also includes all that is present in immediate awareness of consciousness...Synonyms are "experiential field" or the term "phenomenal field" as used by Snygg and Combs, which also covers more than the phenomena of consciousness...[12]

---

[10] Carl R. Rogers, On Becoming a Person (Boston: Houghton-Mifflin, 1961), pp. 379-95.

[11] Koch, op. cit.

[12] Ibid., p. 179.

2. Self-experience. This is a term...defined as being any event or entity in the phenomenal field discriminated by the individual which is also discriminated as "self," "me," "I," or related thereto. In general self-experiences are the raw material of which the organized self-concept is formed.

   Self, Concept of Self, Self-Structure. These terms refer to the organized, consistent conceptual gestalt composed of perceptions of the characteristics of the "I" or "me" and the perceptions of the relationships of the "I" or "me" to others and to various aspects of life, together with the values attached to these perceptions. It is a gestalt which is available to awareness though not necessarily in awareness. It is a fluid and changing gestalt process, but at any given moment it is a specific entity which is at least partially definable in operational terms by means of some sort or other instrument or measure. The term self or self-concept is more likely to be used when we are talking of the person's view of himself, self-structure when we are looking at this gestalt from an external frame of reference.

   Ideal self. Ideal self (or self-ideal) is the term used to denote the self-concept which the individual would most like to possess, upon which he places the highest value for himself. In all other respects it is defined in the same way as the self-concept.[13]

3. Congruence. Congruence of self and experience. This is a basic concept...in which the individual appears to be revising his concept of self to bring it into congruence with his experience, accurately symbolized. Thus he discovers that one aspect of his experience if accurately symbolized, would be hatred for his father...He recognizes the concept he holds of himself to include these characteristics, which would previously have been inconsistent with self. Thus when self-experiences are accurately symbolized, and are included in the self-concept in this accurately symbolized form, then the state is one of congruence of self and experience. If this were completely true of all self-experiences, the individual would be a fully functioning person...If this is true of some specific aspect of experience, such as the individual's experience in a given relationship or in a given moment of time, then we can say that the individual is to this degree in a state of congruence. Other terms which are in a general way synonymous are these: integrated, whole, genuine.[14]

---

[13] Ibid., p. 200.

[14] Ibid., pp. 205-206.

Actualizing tendency. This is the inherent tendency of the organism to develop all of its capacities in ways which serve to maintain or enhance the organism...It involves development toward the differentialization of organs and functions, expansion in terms of growth, expansion of effectiveness through the use of tools, expansion and enhancement through reproduction. It is development toward autonomy and away from heteronomy, or control by external forces...It should be noted that this basic actualizing tendency is the only motive which is postulated in this theoretical system. It should also be noted that it is the organism as a whole, and only the organism as a whole, which exhibits this tendency. There are no humanculi, no other sources of energy or action in the system. The self, for example, is an important construct in our theory, but the self does not "do" anything. It is only one expression of the general tendency of the organism to behave in those ways which maintain and enhance itself.

It might also be mentioned that such concepts of motivation as are termed need-reduction, tension-reduction, drive-reduction, are included in this concept. It also includes, however, the growth motivations which appear to go beyond these terms: the seeking of pleasurable tensions, the tendency to be creative, the tendency to learn painfully to walk when crawling would meet the same needs more comfortably.[15]

Unconditional positive regard...if the self experiences of another are perceived by me in such a way that no self-experience can be discriminated as more or less worthy of positive regard then the other, then I am experiencing unconditional positive regard for this individual. To perceive oneself as receiving unconditional positive regard is to perceive that on one's self-experiences none can be discriminated by the other individual as more or less worthy of positive regard.

Putting this in simpler terms, to feel unconditional positive regard toward another is to "prize" him (to use Dewey's term). This means to value the person, irrespective of the differential values which one might place on his specific behaviors. A parent "prizes" his child, though he may not value equally all his behaviors. In general...acceptance and prizing are synonymous with unconditional positive regard.[16]

---

[15] Ibid., p. 196.

[16] Ibid., p. 208.

Rogers states the "conditions of therapy" and the "conditions of an improving relationship" apply basically to the educational situation so long as that education is "concerned with learnings which significantly influence behavior and facilitate change in personality."[17]

> For therapy to occur it is necessary that these conditions exist:
>
> 1. That two persons are in contact.
>
> 2. That the first person, whom we shall term the client, is in a state of incongruence, being vulnerable, or anxious.
>
> 3. That the second person, whom we shall term the therapist, is congruent in the relationship.
>
> 4. That the therapist is experiencing unconditional positive regard toward the client.
>
> 5. That the therapist is experiencing an empathic understanding of the client's internal frame of reference.
>
> 6. That the client perceives, at least to a minimal degree conditions 4 and 5, the unconditional positive regard of the therapist for him, and the empathic understanding of the therapist.[18]
>
> For communication to increase, and the relationship to improve, the following conditions are necessary:
>
> 1. A person, Y', is willing to be in contact with person X', and to receive communication from him.
>
> 2. Person X' desires to communicate to and be in contact with Y'.
>
> 3. A high degree of congruence exists in X' between the three following elements:
>
>   a. His experience of the subject of communication with Y'.
>
>   b. The symbolization of this experience in awareness in its relation to his self-concept.

---

[17] *Ibid.*, p. 24.

[18] Ibid., p. 213.

c. His communicative expression of this experience.[19]

Learning Situation Rationale

Client-centered theory postulates a lawful relationship when its conditions of growth are operative. Thus the same lawfulness would apply to any such relationship--certainly those in the teaching situation. The following assumptions about the nature of teaching-learning both guide and serve to explain the teacher's manner of relationships with students.

1. We cannot teach another person directly; we can only facilitate his learning.
2. A person learns significantly only those things which he perceives as being involved in the maintenance of, or enhancement of, the structure of self.
3. Experience which, if assimilated, would involve a change in the organization of self tends to be resisted through denial or distortion of symbolization.
4. The structure and organization of self appears to become more rigid under threat; to relax its boundaries when completely free from threat. Experience which is perceived as inconsistent with the self can only be assimilated if the current organization of self is relaxed and expanded to include it.
5. The educational situation which most effectively promotes significant learning is one in which (1) threat to the self of the learner is reduced to a minimum, and (2) differentiated perception of the field of experience is facilitated.[20]

In the deepest sense the teacher in the learner-centered approach attempts to allow and to actively free the student to pursue his own interests, needs, and goals as they are relevant to him in the particular educational situation.

Description of Instructor Classroom Behavior

The learner-centered instructor's behavior is strikingly different from that which occurs in the other two approaches. In many ways both the concept-centered and case study instructors direct the major course movements and are generally content-oriented. The learner-centered instructor's behavior in the college classroom is easily recognizable and can be identified as efforts to encourage and allow student pursuit of individual goals, the communication of acceptance as the facilitating agent, and the use of the instructor himself as resource as well as one who helps to discover and pass on learning resources to the student.

---

[19] Ibid., p. 239.

[20] Carl R. Rogers, Client-Centered Therapy (Boston: Houghton-Mifflin, 1951), pp. 389-91.

I

From the early moments of the first class meeting, as the nature of instruction is established, the instructor appears steadily to focus his efforts upon the creation and maintenance of a relationship with the class which clearly allows the student maximum opportunity to express, clarify, and actualize individual course goals. He opened his relationship with the class by saying:

> This course, as you probably know, is a course that deals with the child. I guess this course will give us a chance to really work in the realm of the child which for all of you will be the focus of your professional work. I suppose you have been told it focuses not only on the child, but on your relationship to the child. One thing about it is we can make of this course anything we want. I suspect that perhaps you don't really believe that. That's customarily the reaction of students, but in a very large measure, I mean that with one or two exceptions which I am going to mention, we're all starting from scratch...
>
> (The instructor then stated the limits on the text necessary and the need for an examination set by University requirements.)
>
> I think and hope that what will come about is that we can formulate both as individuals and as a group the kind of thing we would like to make out of this course. We can decide, and this includes me, what elements in this area have the most meaning for us. Although it may seem premature to ask this question, what I wonder is what are you particularly interested in, and do you have any ideas as yet as to what you would like this course to be like?

Later, after more than one-half the 45-minute class period was over, the following interchange occurred:

Student: You said you wanted us to lead the way. But we don't know what to do and, well, its sort of like wasting time. We're not learning anything, we're not getting anywhere.

Instructor: As you size it up, since I seem reluctant to take the lead and you seem unable to take the lead because of your lack of knowledge of the field and so forth, until something happens this is pretty wasteful of time.

Student: Could we read a chapter for Wednesday so all of us could be in a discussion about it?

Instructor: You can, I guess.

The first class of the second semester course, containing the same students, again is revealing of the instructor's desire to place the meaning of the course on the student's own needs and purposes. It is significant, also, because the instructor, in his presentation, grapples directly with a tender area for those who utilize this approach--the matter of grades. After a few minutes of greeting and random conversation by many of the class, a student opens the discussion:

Student: I have a question. What kind of reading will we be doing this semester? Will it be similar to what we did last semester?...the same type of books...I don't know exactly where to start.

Instructor: I have not been thinking specifically about that but it leads me into...Let me tell you a couple of things I have been thinking about and then we can all chime in where we want to go, what we want to do. I've been thinking about this semester and realizing that in some very basic ways I hope it will be very much the same as it was last semester and in some ways it will probably be different. For one thing we all know each other now, picked people we want to work with. We know interests of people and so on. And you know me well enough to know it is really our undertaking and we can take it in any way we want to. You ought to be more ready to do whatever it is we want to do. Last semester I feel I wasn't helpful in really helping the group to work on the question of what do we want to set for our own standards, individually and as a group. Perhaps we can be a little more helpful to ourselves in figuring out what we want to achieve. Bearing on the question of standards--the contract system--a student could decide at the beginning of the course what grade he would like to work for, and then set up a plan of what he would do to achieve this grade...(the instructor) does give them a list of readings. If they want a 'C' grade, all they have to do is cover those readings. If they want something better, they say what they would plan to do beyond that and so on...If it agrees with some of you, it is an entirely reasonable way. Mostly, I just wanted to toss it out as having a bearing on this angle that has perplexed me and I know some of you. But what standards, what criteria? Those are a few thoughts I've been having. How do we want to go about it this time? Maybe we can be more imaginative in this, the sky is the limit.

Of significance in the excerpt above is the direct attempt by the instructor to encourage the students to have a free hand in the determination of their own grades, even to the point of presenting a plan for them to consider. In keeping with the student self-determination theme, it is interesting to note that after a brief flurry of discussion in which every student who spoke criticized the plan, the whole plan was summarily dropped and not broached again by the instructor.

II

The class meetings generally are of the discussion type and are usually instituted by the students, although the instructor feels no reluctance to initiate a discussion or participate in ways meaningful for the group. Films, recordings, field trips, and observations are utilized when indicated by the group's wishes and needs. The instructor here serves as resource person and facilitates the activity. Even here, however, the use of such activities can sometimes be planned by the students themselves without any assistance from the instructor. Evaluations, including grades, are based as much as possible on the student's own perception of his growth and learning, although there is nothing to preclude other methods which might be appropriate to the total group.

The instructor's inclusion of all of the students' class behavior as pregnant with choice opportunities incorporates even the duration of the time in the classroom. Thus, after an uneventful class beginning and a series of very unrelated student contributions, and with little in the nature of a desired or unifying theme, he says:

> ...Maybe we want to break up early. We don't always have to sit through the whole hour. It looks as though we haven't actually gotten going with readings and thinking of what you wanted to do. If there are things you want to bring up, fine. If not...

A final illustration is revealing of the instructor's belief in the priority of student choice of direction as well as of his own capacity to abide by the choice of what is done with his own willingness to contribute to class discussion. The class opens with:

Instructor: Let me ask, have any of you thought of presenting your material to the class? Anybody want to claim some dates while they are still available?

A few minutes are consumed with these arrangements and suggestions for them, and then after a 22-second wait:

> Is there anything you want to discuss? I have very short notes on play therapy I've jotted down. You might want to use that. I've thought of presenting that this morning...

The class then launched into a discussion of its own, in which the instructor was included, on the meaning of a film some of them had seen on play therapy and implications of therapeutic relationships for the classroom. Finally a student asked of the instructor:

Student: ...how do you understand what they are thinking...kids in your class...how do you get inside them or how do you talk with them?...

Instructor: Anybody?

Student: I think right here is the time to bring in some of the things--you said you have some notes on play therapy--because those are the answers right there of how you get in...

Instructor: There is no easy answer to that except that continually trying to do this helps...

It is worth noting here that it was not until 26 minutes after he offered to share his notes on play therapy that a student took up this offer.

III

In the main, the instructor (1) accepts with very brief verbal response whatever the student says; (2) responds with feelings he is desirous of including in the interchange or discussion; (3) responds with ideas, questions, content material, illustrations, and his own experiences; or (4) does not respond in any way recognizable on the tape recording. The following excerpt is instructive with regard to fairly typical instructor response and interaction. It develops after a student had presented something of a case study of a child.

Student: I think you can see the improvement, though. Didn't you say you could? Maybe it will just take time. You don't spend as much time with him as his regular teacher does, and I think eventually there will be much improvement.

Student: I know, but he still pulls all these things.

Instructor: You didn't describe your feelings toward him. How do you feel about him?

Student: I love him. He's so darling, he really is. He can get me so mad that I just about go home in tears, but he, I still think he's really sweet. When he responds he's the most, he's really good.

Instructor: I don't know whether I should say this or not, but I kept being puzzled by the fact that you kept saying, this may sound kind of funny and so on, and yet I sensed that it is much more than that to you. I think that just possibly, one thing comes to my mind, as I was listening, you can afford to be serious with him. I don't mean to spoil your, I liked your quips and all that, but like when he said, "I want you to watch me do it," but you should realize that means a lot to him, if I really watch him do it. And realize that this is the beginning of a deep relationship.

Student: Well, I do. I sit and I watch him and he asks me all these words and he knows them, too, but I would tell him and help him and everything but, I know I talked with Mrs. _______ about it, and I really spend almost all my time with Brian. He does demand it, and I want it because I want so bad to help him straighten out. I said that I was worried about it, because if you can straighten Brian out that's all that is important. But I think I do spend three-fourths of the morning with him. And listen and talk.

Instructor: But you like it.

Student: Yes, because you wonder how he's going to respond next, sometimes he lets you go. He's forever, yesterday was the first time he ever put his tennis shoes on and off by himself. Every other time, he says, "Put my tennis shoes on." He's always saying things for nothing. I said, "I will put them on." What do you say? Please put my tennis shoes on. O.K. Thank you. But at first he won't do it.

Instructor: I have the feeling, as you describe him, that what is important is what happens to him outside. For instance, what you do about this is put on his tennis shoes. And really what's important is what's happening on the inside, both in you and him...

Student: I talked to him seriously about acting up in class.

Instructor: Where you were talking to him about his report card... it seemed as though you were really expressing yourself.

Student: Yes, that time he really talked seriously. But one other time I talked to him and Mrs. _______ had suggested about his acting up in class, and have him, maybe he did get so taken up with everything that he really couldn't realize that he was disturbing everyone. He was so interested in getting my attention that he really doesn't know. She said maybe you could work out a set of signals or something, either tap your ear or look him in the eye and mean:

You really better settle down a little. You're getting a little bit out of hand for the good of the class. If you really feel you can't settle down, why don't you go over and read in the back. Not as punishment. Wait until you settle down, and when you know you're ready to come back into class, you know you can. And I tried to talk with him about this, but I couldn't. He wouldn't answer back or he'd pull his rolling eye bit, or he'd say, "Go away, go away." He wasn't ready to accept that. It was a little early and I've really been afraid to try it since.

Instructor: You really have communicated this to him.

Student: When he was pulled away from me by the patrol, that's when I figured he was more advanced than "I like you." "Do you like me?"

Student: I was really sorry that I missed that one point. When he said, "Do you miss us?"

Instructor: If you could live that moment over now, what would you tell him now?

Student: I don't know. What would you say? How would you really put it? I felt bad at that moment and then I felt glad that I didn't have to answer.

Instructor: Glad that you got off the hook.

Student: I just didn't know what to say.

Instructor: What do you think your feelings were at that moment?

Student: I think Brian was good that day, but it seems to me everything else went wrong that day. I was thinking I was so glad to get home and sit down. I knew it was important to him and I wanted to say, well I do miss you and I want to come back. And the kids are always asking me to come back in the afternoon. But I don't know. I really don't.

Instructor: Any of you have suggestions?

Student: If you would say, "Yes, I do want to come back and see you work on these other things that you're excited about."

Instructor: If you said, "Well, I'd like to come back but sometimes I'm worn out by the things you and everyone else does that I don't want to." Your feelings are clear enough if you can only get through to them quick enough. The feelings that you had I think are good enough for this boy if you can be aware of them enough to express them. Usually in a situation like that you're glad to get away from the school. But if you take all your feelings into account...

There is no questioning, criticism or negation of student statements, reports or various contributions in the classroom situation. Each student utterance is allowed to stand without comment, is met with an "mmm hmm" or is responded to personally by the instructor with acceptance of an empathic verbal nature. An illustration of the latter occurred in this response to a student's explanation of how she recalled herself to the time she had available for the course:

Student: ...worried me at first...I tried to budget out the hours I could put for each course. I'm in a terrible schedule this semester because I have classes and teaching every day until 4:30...meetings, and I can never get to the library except at night, or weekends. At night I have committee meetings ...If I could spend at least an afternoon at the library and take all the trips, that's all I could expect and I wouldn't have as much to show as someone who did have the free time. But probably next semester I would have more time...but I just feel we can't be expected to do what we don't have time for...

Instructor: What I get out of it. You feel you've set a realistic time standard for yourself on this...which in your circumstances is O.K. ...It could differ from semester to semester, from person to person and so forth.

Frequently, the instructor is accepting of the student feeling, attitude, and problem even as he highlights what appears to him to be the underlying central concern. This is apparent in excerpts from a discussion about noise and discipline:

Instructor: Anybody else have an experience they want to talk about?

Student: Last Thursday in my fourth grade, I gave them an exercise in direct quotations...I also had been teaching creative writing and we had always referred to this, using our imaginations. We reviewed what we had learned about interpretations and I asked them if any of them had been to Washington, D. C. A couple of them had and then I said, "We'll all use our imaginations and go there. We'll have an interview with the President." We had direct quotations like in conversation. But they never got this excited before. They all wanted to be someone else. This had happened once before, and I said, put your creative ideas on paper. That didn't work so finally I made them all be quiet. I was wondering, did I squelch any of their imaginations? Maybe I should have let them go on the way they were. I read all the papers and some of them were pretty good.

Instructor: You were puzzled whether you did the right thing.

Student: Often in creative writing they'll get a little noisy. Often one of the kids will complain that she can't think. I said, "One of our artists here can't think with all the noise." They respected that, if someone in the class was trying to think. They quieted down.

Instructor: The main problem is the noise.

Student: When we have a free period, like we're teaching a unit on birds, when we have a research period, well, that can be noisy to a certain degree. I don't like them shouting, but that doesn't bother me. If I'm teaching something and there are six of them talking, well they're not listening or learning anything. They are disturbing me and other people around them. It's not the idea of quiet exactly. It's just that the noise prevents them from learning...

Student: My pupils are used to being very quiet in the room. My teacher's a strict disciplinarian, but I like to have a little noise in the room. I find that either they're wild and I have to calm them down and then they're completely silent. Once in a while I feel that I really hit a happy medium. There's noise but it's down.

Instructor: That's what you like in your classroom.

Student: It's not the noise, it's that they were off the track. They were more interested in the actual material you were talking about than the whole subject.

Student: If you're not accomplishing anything, just let them sit there for the rest of the period.

Student: I like them to be quiet. But if they're not, I can't see myself standing up there trying to say something if nobody's listening anyway...

Student: I had this happen to me last semester. I didn't want to discipline the children with someone observing me, but finally I did. He said that was right. You should have. But this semester I don't think anything of it. I just do it...

Instructor: It's very interesting watching teachers, and parents, too. It seems to me that it's astonishing how children pick up what people want and expect and the things they won't stand for. It's incredible, it seems to me, to watch parents. Some parents never seem to discipline their children, but neither do the children do things that are out of bounds. I don't know why, but it seems to be the security of the parent: Well if you do this I won't stand for it. We seem to communicate a lot that we don't communicate verbally. In your own classroom, if you don't seem really strict the children assume, well O.K. You'd just as soon have an amount of talking and noise.

Student: I don't understand how you get this to the group. Everybody wants it.

Instructor: I'm not sure either.

Student: I very seldom have any trouble in the classroom, but every time we get in a line to go to the auditorium or something all this jabber, jabber, jabber, all the way down the hall...

Student: As far as establishing this light atmosphere in the classroom, I think that it's hard to have the children understand that you're being consistent. Sometimes you allow noise and sometimes not. It's hard for them to determine when they can be noisy...

Student: Have you ever tried using just your eyes and your face to make those kids behave? This one little boy will just sit and look at me and I'll stare back at him and not move my face muscles at all. He just sort of melts...

Student: ...so I told them that the next time I came back I wasn't going to bring the movie. And then I thought it was the only time all year we could have had a movie. So I did bring it, and they remembered, of course, that we weren't going to have it. This was the only day we could have it so I would let them go down and see it. But if there was the least bit of disturbance going on then we would go back and that was it. They were real good. We talked about it for a little while, and they were quieter than anybody down there.

Instructor: It appears that in your case, when you're talking about something that is a real limitation. I mean you found that this was the only time of year that you could show it. They recognized that you were talking about real things. It wasn't like a threat or maybe they could talk you out of it or something like that. They realized that this was it. This is somewhat what I mean. That somehow, we can indicate our degree of assurance.

Student: When you're walking through the halls, are they quiet?

Student:	My school doesn't have a great big rule about being quiet in the halls, because every class is not really loud but not quiet either.
Student:	I line mine up at the door and relate it to something. Let's be quiet as the little Dalmation puppies now. We had read about Dalmations just previous to going to the library...
Student:	They chat, they talk among themselves. It's not noisy, though...
Student:	Sometimes it seems that the sixth grade can only be done on a threat basis.
Student:	Last week there was a cub scout troup, eight little boys, in the Historical Society, and they could be heard from one end of campus to the other. Eight. Right outside the study hall...
Instructor:	One thing that really fascinates me. I could not help but think. We were bringing up experiences in teaching and we're drawing away from that discussion, but do you realize that the one thing that we've really talked about, the one thing that's uppermost in our minds is how in the hell do you keep control over the little Indians. This is real fascinating because this is the main problem you feel, I guess. I expect I would, too. Don't take this as criticism. You expect sixth graders to act like sixth graders and fourth graders to act like fourth graders. Golly, when our grandchildren visit us it seems as though they're on the go 24 hours a day.

The instructor has a conscious, steady concern about the availability of resources such as books, films, tapes, and field trips. Thus on the first day he includes in his introductory remarks:

> I've managed to collect quite a number of books...to be available right in this room. So you can borrow...material easily available. Maybe some of you will have books and materials you could add. In addition there are films which might be available...

In an early class meeting this concern is injected directly as part of a response to a question about how the text will be used and if certain reading is required. The response, revealing of the instructor's hope that students will read, leads into the mention of books available.

Instructor:	...It is really up to us as to how we want to use the text, how we want to work...There are several chapters in the book which are certainly relevant to some of the kinds of

> questions you have brought up. The chapters I noticed to be quite relevant are chapters one and two--let's see--six, ten, and eleven. This isn't an assignment or anything...just saying that we want to dig into the text to kind of see the sort of things everyone is after.
>
> ...We may take a minute or two...I think it will indicate the kind of thing that is available (Book title unclear)... But I thought it was a very good book. It really sucks you in. Before you know it, by golly, you are really involved in it. It does present a way of looking at understanding people. (Other book mentioned)...one thing I just got this summer...not yet published. A. S. Neill... it's called Summerhill and the subtitle is A Radical Approach to Child Rearing. It's a radical approach and I think you will find it quite fascinating...

He tried to be directly helpful in making books, especially available to the class. At one point he said that there was money available for the purchase of books which might be meaningful to several or more students--that all they had to do was to make their request known. A not untypical instructor-class concern about books is apparent in this brief discussion which follows after the instructor asked the class librarian if she had anything to say to the class.

Student: We have our books up here now. We have our books up here now on the cabinet. _______ has another book that she tells me was the alternative for the textbook. She says it's quite good. Especially one chapter, Chapter 12, called Becoming Mature. And also some of us signed up for some teaching materials from the World Book Encyclopedia. And these are here. So those of you that signed up take the ones you signed up for.

Student: Are there enough books for everyone? Because I can't remember if I signed up for any or not.

Instructor: You can pass them around, or you can order more...

Student: If there are any books that you would like added here... think it over, and perhaps somebody could take the responsibility of compiling the list. Then they'll be available to you when you want them.

Instructor: That will be very helpful. One, I think could be, either books that you've seen that look interesting for the next semester or books that have been very helpful this time and perhaps not everyone had a chance to read. Many of you recommend very highly this one...How many of you had a chance to read that? How many of you did not have a chance but would like to?

Student: What about that book, ____ ____ ____ or whatever the title was. Remember we mentioned that here?

In a sense it is possible to describe much of the instructor behavior as that of facilitating the use of resources, including student presentations. There is a marked emphasis upon student reports of various kinds, field trips, reading, and the formulation and achievement of personal standards and course goals. This includes the instructor himself as a resource as he made himself easily available for conferences with students.

The instructor also has a concern--almost a self-conscious concern--about the dynamics and the over-all movement of the class. He shares his feelings, indicates his doubts, his gladness, his perplexities, his desire to be sure that he is doing whatever he can to be meaningful and to be helpful. More than just sharing what he is feeling and perceiving, he deliberately makes this a part of the course activity as he asks openly for evaluations of a personal and course nature and offers his own views of himself and the class. His desire to be abreast of student perception of what is occuring and his willingness to become part of the direction students feel they need is rather richly apparent in a statement made after reading some reaction sheets turned in by the students:

> I really appreciated the twelve reaction sheets which were turned in, and I hope the rest of you will feel like doing the same. And any time that any of you have something you want to say to me about the course, this is one way you can do it, and I will always welcome such messages.
>
> I realize the thing that your reaction sheets did for me was to reassure me. It is not easy to trust a group--to really trust them to be self-directing. The fact that other groups have proven that as individuals and as a group they can direct themselves constructively, never quite answers the question about the next group. So, I found myself very excited to discover that people are reading and thinking in ways that are new to them, and are choosing significant things they want to do. I found it very rewarding to discover that many of you appreciate this freedom. I feel reassured that we are really moving.
>
> I also appreciated knowing the confusion and uncertainty that some of you feel, the sense of "lostness" that you are experiencing. I want you to know that I am (I think) as willing to supply direction, if that is what you really desire, as I am to supply freedom. I don't believe I am as good as the first as at the second, but I am genuinely willing to tell you what to do if that is what you wish me to do. And if you mostly wish just to find some clear purpose for yourself, I will be glad to help you with that.

> I laid down the papers with a feeling of real zest for this course. I feel sure now that I'm going to learn a good deal, and I know many of you feel the same way.
>
> I think one problem we should face fairly soon is that of evaluation. Several of you mention that uncertainty as to what we are going to do about grading ourselves is holding you back. Perhaps we should think about this when you feel ready.

At a class session nine days later, the instructor again broaches the subject of grades:

> ...There have been a couple of things that have been concerning me and I realize that I'll feel better if I get them off my chest. A couple of you have talked to me about that fact that though you like the freedom we have in this course yet it has been somewhat of a problem...do we have to do what we want to do...I know that that is a real problem. So that is something I have been thinking about. Then another thing--I've kind of batted around all angles of this, I first came up short, feeling, by golly, I suppose I'll have to turn in six-week grades. Then I felt I don't have to even though that is sort of an expectation. And then I thought I have no desire to turn in six-week grades and yet I would appreciate being informed as to what you were learning so that...I don't know, just for my own sake, I guess. I feel more comfortable in myself when I know. So then this occurred to me that might be a resolution of both problems, that we might do something like this: if each of you turned in a self-evaluation at the end of the six-week period which might contain three things. One would be a brief statement as to what you've done in relationship to the course. Not just reading you've done but anything in relation to the course. Second would be your judgment as to an appropriate grade for yourself at this point. And the third would be a brief explanation as to how you arrived at the grade. Different people might have different criteria. You might be comparing yourself with other members of the group. You might be comparing yourself with some past factors ...It might be somewhat helpful to you in putting self-imposed pressure on yourselves. It would be of help to me in solving my problem...knowledge of what's going on without saying you do this for tomorrow and so on. Wonder how that strikes you?

After some discussion the class agrees to the evaluation plan. It would be remiss not to include this surprising (after more than three weeks of the course) question, the unerring acceptance of it and the beginning of the response.

Student: ...what's the area of this course?

Instructor: Certainly the focus of this course, as seen by the College of Education, is on the child...

The steady attempt of the instructor to become part of the flow of the class, actually to become integrated with it, is seen in his open evaluation of himself--to the point of assigning himself a grade. It is worthy of inclusion here if only because of its very uniqueness. But its meaningfulness as illustration of his own behavior with the group is even more significant. In it he says directly what it is he is about as instructor and requests assistance in fulfilling the directions he values for the class:

> I appreciated very much the ranging, honest attempts to evaluate what you're doing. I also appreciated the fact that everybody got them in on time which made it very simple for me, too. I was sort of wondering how I could show some of the fact that I did appreciate your thoughtful efforts that had gone into those and it occurred to me that, like the first reaction sheet, why I shouldn't do a self-evaluation. Since I can't hand it to you I'll read my self-evaluation for this far in the course.
>
> This is not an evaluation of my teaching because I've never been sure whether I wish to be a teacher. But it is an evaluation of my attempt to facilitate learning in this class. I've tried to establish good communication with the groups and in the group. I found it relatively easy, much easier than with some other groups I've worked with. I think that real progress has been made. I think the evening at my home helped a good deal in this respect. I believe the level of interpersonal communication is deepening, both on my part and that of the class. I think members of the group are still a little afraid to approach me outside of class. I've worked at providing research and in this I feel I've done moderately well. But if I could spend more time on it, I'm sure there are many more resources which could be made available. I think, perhaps, both of us put forth several efforts to make available resources at first. To me the class seems very responsive in using resources. I see no reason why I should spend more time on thinking about that...I somewhere wondered after class if we realized how sharp some of our differences were. I think the freedom of the classroom atmosphere has increased and recently there have been a few times when individuals have cared to explain points of view and feelings about which they are very unsure rather than just experiencing assured ideas. I think I've been helpful in increasing this degree of freedom. It's possibly significant and it may be due to chance. The deepest expression of feeling occurred when I was absent. (Laughter) On the whole I feel I've made a reasonably satisfactory effort in helping establish a situation which individuals can use to promote learning. Of greatest weakness are (1) the imaginative providing of resources; (2) being a resource personally to individual members of the group.
>
> I think of grades no less than some of you but if I were forced, as you were, to assign myself one it would be a B or possibly a

> B plus. I hope you will help out with suggestions, too, which would improve the learning opportunities in the group...
>
> Like all of you I have to decide what criteria I'm using and, as you people discovered, it's not easy. Most of you generally chose to evaluate your efforts in terms of some internal personal standards of your own. I think this is true of mine. Any of you have any announcements you want to bring up?

The consciousness of the meaning of the course, the flow of it, the concern as to whether he has been imaginative enough, and his own puzzlement as to why the second half of the course did not flourish comes through plainly in a statement of the instructor toward the end of the semester. It brings the central meaning of the approach full cycle in the sense of the instructor perceiving himself as a facilitator, not one who directs the course. Hence, especially in a course on the nature of learning, he wishes to know from the students their evaluation of the course so he may check it against his own and perhaps learn more about the course inadequacies and even failures.

> One other thing I would like to ask of the group--you can turn it in individually or in groups--I would like to have your evaluation of the course as a learning experience. And I would particularly hope that it would be a critical evaluation, that would be both ways--positive and negative. How might it have been better and in what ways was it good for you?...Because I would like to see how your evaluation checks with mine, I would like to say a few things about the way I see it, thinking of my responsibility in the course. I feel that this semester somehow it has slipped into a laissez-faire rather than a sufficient stimulus. I criticize myself for not having been more imaginative about resources that the group might use...our own learning and so forth. Part of that might have been that I lost nearly a month, but I really don't think that does account for it. Also, I feel that I got into the same sort of trap that you did this semester. And it's a very intriguing thing as to why this happened. Now, last semester I don't think any of us felt limited by the subject matter of the course. We never thought, "Now wait a minute, is this something I ought to do?" Because wanting to know about children was an interest of all of us. This semester I feel trapped, the same way you do. The label of the course has a limiting effect. That has hurt. This business, too, the reading doesn't seem to be as interesting to any of us and I'm darned if I quite know why. I would like you to think equally of what has gone on and how it might have gone on better. You will be trying to develop your own modes of teaching and it may be important to try to analyze some here...

IV

In the learner-centered approach the expected subject matter, oriented and presented by the instructor, is abdicated in favor of student self-directed movement and the personal meaning the course experiences have for the individual. This approach, in practice, proves to be radically different from either the concept-centered or the case study approach in effecting, stimulating, and promoting student growth and learning.

Since the way is open for honest expression, the student feelings, opinions, and intellectual exploration range from extremes of exultation in the freedom and its utilization to passivity, negativism, and bitterness about what is conceived to be the wastefulness induced by the lack of instructor-directed subject matter. Student choice of movement is extremely variable. Some students find themselves impelled to an intensive knowledge quest because there is sharp awareness of the need to buttress what was once obvious but now appears shallow. Others rush to personal meaning exploration. Each student, in his own way, has the opportunity to find his path toward the implementation of self-chosen purposes. There are varying success and failure patterns in the achievement of student purposes. Indeed, some do not arrive at the saying of their own purposes. Whatever the weighting of course activity and experience--the personal emphasis upon "content" or self-exploration--it is very obvious that there is, typically, some kind of joining of student self and the knowledge quest. The learner-centered climate, when operative, does appear to allow, stimulate, and even induce varying degrees of integration of the traditional split between self as person of values, needs, and aspirations and the more cognitively oriented course purposes and possibilities. In keeping with the learner-centered approach's central dynamic--the freeing of the student to be, to become, and to actualize his own distinctive course purposes --rarely is there closure for the group or the individual student at the course termination. The emphasis at the conclusion is most frequently one of a looking forward to what may yet be learned, what may yet be discovered and a puzzled, sometimes troubled wonder about the meaning of having experienced freedom and its possibilities.

Summary

What precedes is a description of what the instructors of three different approaches to learning utilized as their theories of learning, along with accounts of what they actually said to and with their students in the college classroom situation. In the broad sense of teaching approach, each of the instructors actualized the central focus of approach meaning. The concept-centered approach instructor did rely in a basic way upon the presentation of concepts he deemed crucial to the content area of knowledge with which he dealt from class to class.

The case study approach instructor did utilize many case studies as he worked to clarify the meaning of growth and function in childhood and their implications for learning process. The learner-centered approach instructor did concentrate upon relationships with his class which allowed and encouraged students to pursue their own interests and goals. Thus it is possible to regard the over-all research project findings as reliable insofar as one may be willing to draw conclusions from the impact of the "approaches" upon the learning and growth of the students.

Yet, it is clear in the preceding versions of what actually happened in the classroom interactions that individual students may have felt the impact and meaning of the instructor in ways quite apart from the stated approach. Positively, this can mean that the instructor transcended his approach. Negatively, this can mean that what he was as a person was not always congruent with the approach. It seems, then, that the approach meaning must be perceived only in the context of the total project findings.

BIBLIOGRAPHY

A. CONCEPT-CENTERED APPROACH

Dollard, J. and N. E. Miller. Personality and Psychotherapy. New York: McGraw-Hill Book Company, Inc., 1950.

Hall, Calvin S. and Lindsey Gardner. Theories of Personality. New York: John Wiley and Sons, Inc., 1957.

Hilgard, E. R. Theories of Learning (Second Edition). New York: Appleton-Century-Crofts, Inc., 1956.

Klausmeier, H. J. Learning and Human Abilities: Educational Psychology. New York: Harper and Brothers, 1961.

Mowrer, O. H. Learning Theory and Personality Dynamics. New York: Ronald Press, 1950.

__________. "Two-factor Learning Theory: Summary and Comment." Psychological Review, 1951, 58, pp. 350-354.

Ringness, Thomas A., H. J. Klausmeier, and A. J. Singer. Psychology in Theory and Practice. Boston: Houghton Mifflin Company, 1959.

Skinner, B. F. Science and Human Behavior. New York: Macmillan Co., 1953.

Watson, J. B. Behaviorism. New York: Norton, 1925.

B. CASE STUDY APPROACH

American Council on Education. Helping Teachers Understand Children. Washington, D. C.: American Council on Education, 1945.

Dearborn, Walter F. and John W. M. Rothney. Predicting the Child's Development. Cambridge: Sci-Art Publishers, 1941.

Frank, Lawrence K. "The Beginnings of Child Development and Family Life Education in the Twentieth Century," Merrill-Palmer Quarterly, 1962, Vol. 8, No. 4, pp. 207-28.

Millard, Cecil V. and John W. M. Rothney. The Elementary School Child: A Book of Cases. New York: Dryden Press, 1957.

Prescott, Daniel A. The Child in the Educative Process. New York: McGraw-Hill, 1957.

C. LEARNER-CENTERED APPROACH

Aichorn, August. Wayward Youth. New York: Viking Press, 1935.

Asch, M. J. "Non-directive Teaching in Psychology." Psychological Monographs, 65:1951, No. 4.

Cantor, Nathaniel. Dynamics of Learning. Buffalo: Foster and Stewart, 1946.

____________. The Teaching-Learning Process. New York: Holt, Rinehart and Winston, 1953.

Combs, Arthur W. and Donald Snygg. Individual Behavior: A Perceptual Approach to Behavior, Revised Edition. New York: Harper and Brothers, 1959.

Eckel, C. H. "An Experiment in Teaching Educational Administration." Bulletin of the Bureau of School Service, College of Education, University of Kentucky, Lexington, 28: September 1955.

Faw, Volney E. "A Psychotherapeutic Method of Teaching Psychology." American Psychologist, 1949, 4, pp. 104-109.

Gross, L. "An Experimental Study of the Validity of the Non-directive Method of Teaching." Journal of Psychology, 1948, 26, pp. 243-48.

Jackson, John H. "The Relationship Between Psychological Climate and the Quality of Learning Outcomes among Lower-status Pupils." Unpublished Doctoral dissertation, University of Chicago, 1957.

Kelley, Earl C. Education for What is Real. New York: Harper and Brothers, 1947.

Koch, S. (Ed.). Psychology: A Study of a Science, Vol. III: Formulations of the Person and the Social Context. New York: McGraw-Hill, 1959.

Neill, A. S. Summerhill. New York: Hart Publishing Company, Inc., 1960.

Rogers, Carl R. Client-Centered Therapy. Boston: Houghton Mifflin, 1951, p. 386.

____________. "Significant Learning in Therapy and Education," in On Becoming a Person. Boston: Houghton Mifflin, 1961, pp. 279-95.

Wieder, G. S. "Group Procedures Modifying Attitudes of Prejudice in the College Classroom," Journal of Education Psychology, 45:1954, pp. 332-44.

CHAPTER IV

TEACHERS' COMMUNICATION BEHAVIORS

by

Patricia W. Cautley and Dan W. Andersen

As indicated in Chapter 2, one of the primary ways in which we hoped to study our teacher-subjects was through observation of their behavior; it seemed that only in this way could we hope to get some evidence as to whether their teacher education experience had brought about changes in their teaching behavior.

In developing a method of behavioral study, our first requirement was to select an aspect of behavior which we could assume represented a significant part of the teacher's total behavior in the classroom and at the same time could be observed and recorded in a reasonably objective fashion. Much of the early thinking was devoted to this question and the construct of communication was consequently adopted as an "umbrella construct" under which much of the significant behavior in the classroom could be subsumed, conceptualized, and gradually clarified.[1, 2]

What do we mean by the term "communication"? What sort of conceptual framework facilitates our looking at the classroom processes and understanding them? Although a considerable body of literature has developed in the very complex and technical field of communication, most of it deals with much more precise and controlled situations than exist in a public school classroom.

First a definition.

> Communication is a social function...It is essentially the relationship set up by the transmission of stimuli and the evocation of responses.[3]

---

[1] Communication and Mental Health, Teacher Education Research Project (Madison, Wisconsin: University of Wisconsin, 1960), 15 pp. (ditto).

[2] W. W. Lewis, "Selected Concepts of Communication as a Basis for Studying Mental Health in the Classroom," Journal of Communication, 1961, II, pp. 157-62.

[3] C. Cherry, On Human Communication (New York: Science Editions, Inc., 1961), pp. 6-7.

Here the emphasis is on the relationship which is set up, in contrast to some earlier definitions in which the occurrence of "influence" or "response" was the essential condition of communication. In the classroom, there may be no immediate responses evoked by what the teacher has said and yet communication may have occurred in that the learners have understood what the teacher has said.

In any conceptualization of communication it is essential to represent the speaker (the sender or encoder), the listener (the receiver or decoder) or listeners, and the "message" (see Figure 5). The sender or encoder transmits a message, verbal or nonverbal, which is received through the sense organs by the receiver or decoder.

A fundamental and also obvious requirement for the successful communication of a message is that both sender and receiver must have a sufficiently common background of experience so that whatever is said or expressed through behaviors, verbal and non-verbal, can be expected to convey at least approximately the intended meaning to the listener. This background would include the possession of a common language and a cultural background with some common elements. In other words, in the accumulated experience there must be an overlap of the "fields of experience" of the sender and receiver if communication is to occur between these two individuals. They must have at least general agreement in the meaning they attribute to certain words or gestures if the message sent by one is to be understood by the other.[4] The misunderstandings which occur so easily between human beings as they attempt to communicate, and particularly between individuals of different cultural or social class backgrounds, in the meaning attributed to a simple gesture amply illustrate the importance of the overlap of the "fields of experience." However, even when these "fields" overlap so that there is approximate agreement on meanings, some individuals "get the message" much more clearly than others. One hypothetical explanation for this is that these individuals and the sender of the message agree much more closely in their perceptions of and meanings attributed to aspects of the message and the situation in which it is sent than other potential receivers in the same group. We have developed the construct of "shared cognitive and perceptual space" to describe the instances in which sender and receiver hold identical perceptions which are relevant to the message. The greater the shared cognitive and perceptual space, the more effective we would assume the communication to be between these individuals. It is possible to test this assumption, for example, by collecting data regarding the perceptions held by the teacher and the pupils regarding significant aspects of classroom interaction between teacher and learner, between learner

---

[4] E. T. Hall, The Silent Language (Garden City, New York: Doubleday, 1959).

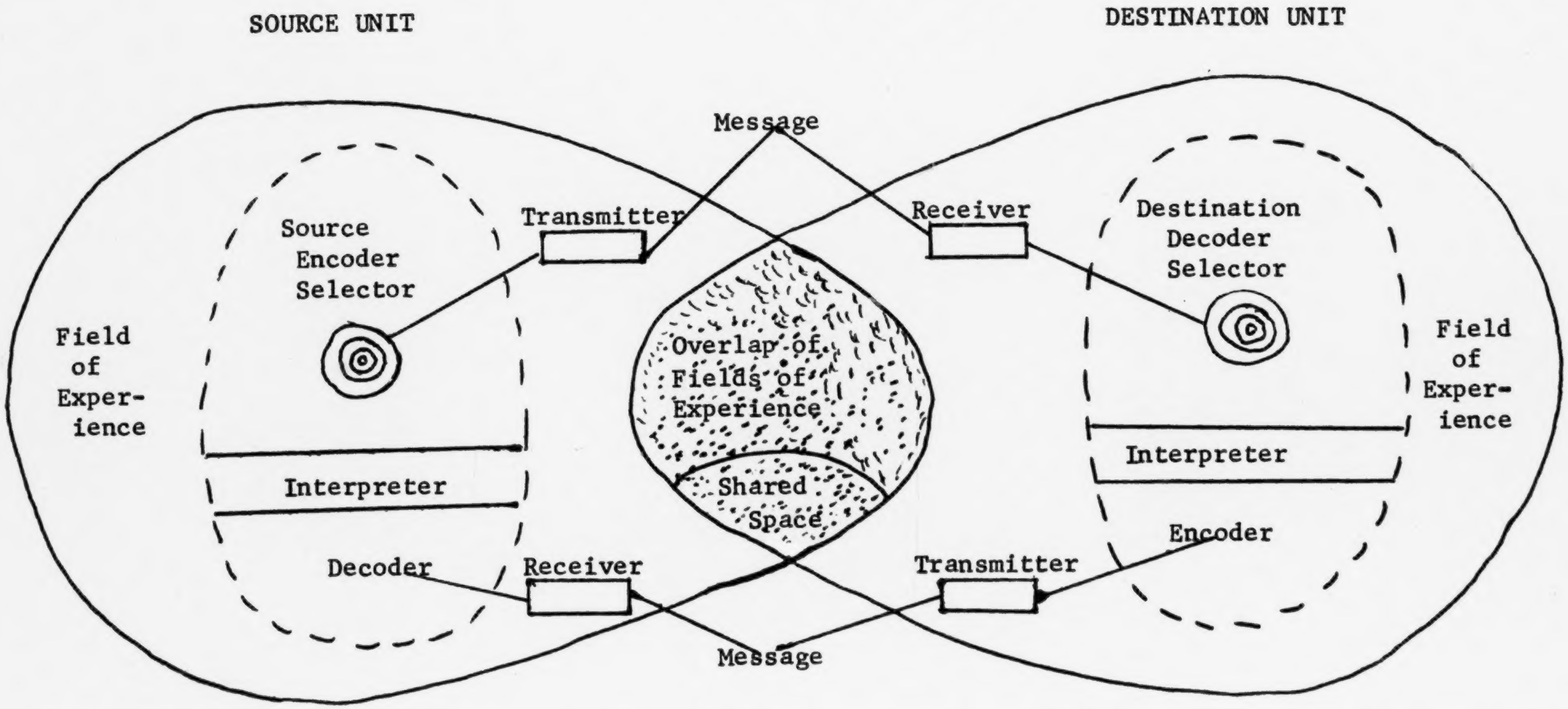

SOURCE UNIT
DESTINATION UNIT
Message
Transmitter
Receiver
Source
Encoder
Selector
Destination
Decoder
Selector
Field
of
Exper-
ience
Overlap of
Fields of
Experience
Shared
Space
Interpreter
Interpreter
Field
of
Exper-
ience
Encoder
Decoder
Receiver
Transmitter
Message

Figure 5--Schematic Model of the Communication Process

and learner, between teacher and administrator, and then to assess the degree of agreement between these perceptions and the relationship of this agreement or non-agreement with measurements of shared perceptual-cognitive space through the use of the semantic differential questionnaires designed to elicit data on perceptions of others and self (including the ideal self), and interviews geared to assessments of value systems.

Returning to a consideration of the "sender" of the message, it is essential to take into account the process occurring before the sender transmits the message--the process of selection. Out of the totality of material which might be transmitted, the sender selects only a small part, and selects a particular way of transmitting it. A teacher may have a wealth of information about the life of Eskimos, for example, but he selects only a small part of this information to transmit to his class and expresses it in a particular way. This process of selection is conceptualized as one which includes cognitive and affective aspects as well as both recognized and unrecognized needs. It is a process which is rarely known, explicated, or understood by human communicators. However, it is possible to make certain inferences about this selection process from a careful study of the messages transmitted by a given individual. For example, it could be inferred that a message from a teacher to learner which includes detailed specification of facts in a given order represents a different perception of the teaching role than a message which contains little or no information but a large number of questions about the given topic. A message from the teacher to the learners which includes praise for previous behavior in connection with suggesting new activities or directions for a given project represents a different perception of the learners in the classroom and of the teacher's function than a message which is top-heavy with reprimand and scorn. We assume that teachers' perceptions of the total classroom situation, of their own roles in the classrooms, and of the learners in their rooms (whether the latter are perceived as "well-behaved" or "badly-behaved") will all have a profound effect upon the kinds of messages which they select, modify, and transmit to the class. Further, we would suggest that although teachers may not be particularly aware of these determinants (though when we seek to make them aware they can become more sensitive to them), clues to their differential perceptions are to be found in the particular kinds of messages which they transmit.

Similarly, we assume that the learners do not simply "listen to" or "get" the messages sent by the teacher. The material received through each learner's sense organs must go through a private "meaning filter" or "selection process" before it is interpreted and acted on. One way of conceptualizing the selection process it to think of a series of meaning or interpretation grids. The individual learner's readiness and ability to receive, comprehend, and interpret depends not only upon his attention at the moment and his possession of a vocabulary sufficient to comprehend the behaviors (verbal and non-verbal) used by the teacher, but also upon his attitude toward school in general and toward the activity at the moment, his perceptions of the teacher, of the interaction process in the classroom, of the other learners in the class and of his own role in the class, as well as upon his particular mental set and his needs at the moment.[5]

Method of Recording Communication in the Classroom

Clearly the process of communication in the classroom is extremely complex. In this study we decided to focus on one aspect of it--the verbal messages transmitted by the teacher.

Verbal messages were selected because they represented overt behaviors that could be recorded electronically and inexpensively on tape. By use of the Vega microphone, a clear recording of the teacher's verbalizations could be assured. An adequate recording of the learners' verbalizations is also highly desirable but much more difficult to obtain, and we have only partially succeeded in this.*

A clear recording of the teacher's verbal communication seemed particularly important because the teacher is assumed to be the primary determinant[6] of the classroom climate and generally the primary communicator as well. The teacher affects the learners and the social situation which exists in a given classroom largely through verbal interaction. Hence an understanding of the ways in which she communicates and interacts is basic to any description of the classroom process and activities.

---

[5] John Withall, John M. Newell, and W. W. Lewis, "An Analysis of Classroom Patterns of Communication," Psychological Reports, Vol. IX, 1961.

*All of the non-verbal messages transmitted both by the teacher and the learners, such as gestures, posturing, and movement about the room, contribute importantly to the total communication process, but it was not possible to record them adequately, except by video tape. The expense of this medium tends to make it prohibitive in many instances.

The Vega microphone was used to obtain the recording of the teacher's voice. The teacher wears a small battery-operated microphone which is not connected with the receiver in any way; hence her freedom of movement around the room is not restricted. The Vega receiver is connected with a Wollensak tape recorder to produce the tape recording. The recorder and receiver both may be placed outside the classroom, if desired, and still be in range for the Vega transmitting system.

[6] John Withall, "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms" (unpublished Doctoral dissertation, The University of Chicago, 1948), p. 14.

Two tape recordings were made of each of the teacher-subjects during the semester devoted to practice teaching, one early and one late in this period, and three recordings during the first year of full-time professional teaching, in the fall, mid-winter, and late spring. An attempt was made to record the teaching of the same subject matter area--either Social Studies or Science--at each observation time. In addition, since the three observations during the first year of full-time teaching covered an average of an hour and a half, the teacher's handling of other subject matter was also recorded.

Method of Analyzing Communication in the Classroom

Once the tape recordings were collected, there remained the task of analyzing them or describing them systematically in some way which permitted summarizing the behavior contained in each one. The pioneer work of Withall[7] in categorizing the verbal behavior of teachers and of Bales[8] in categorizing the behavior of members of small groups served as initial stimuli for the development of categories. In attempting to develop a communication construct, it became apparent that most of the teachers' verbal behavior could be described either as "sending" or "receiving." "Sending" could be subdivided into categories such as giving information, giving analysis, or expressing personal opinion. "Receiving" could subsume both listening and the "intent to receive," and could include such categories as asking for information, asking for analysis, or asking for personal opinion. An original set of fourteen categories was developed and used during the early years of the study. It was subsequently expanded to an extended system of thirty-nine categories. Much of the expansion resulted from a subdivision of the original categories in an attempt to analyze more precisely the kinds of teacher communication occurring.

Included in Table 6 are the identification numbers for the categories in the original system of fourteen and in the extended system. Extensive use was made of the revised system of seventeen categories, and most analyses of live observations completed during the 1962-63 school year utilized this revised system. The availabity of data in each of the two systems is reported in Table 7. No tape recordings were made of our teacher subjects during their junior year. Only "live" observations were made. Inasmuch as data for the junior year were all collected prior to the extension of the category system, all analyses of junior-year data must be in terms of the fourteen categories. The extended system of categories was never used in live classroom situations

---

[7] *Ibid*.

[8] R. F. Bales, *Interaction Process Analysis: A Method for the Study of Small Groups* (Cambridge, Massachusetts: Addison-Wesley, 1959).

Table 6

EVOLUTION OF CATEGORY SYSTEMS FOR ANALYZING VERBAL INTERACTION

Category Title	Category Code Original System	 Extended System
Asks for Information	1	1a 1b1 1b2 $1b_y$ 1c
Seeks or Accepts Direction	2	2
Asks for Opinion or Analysis	3	3a 3b 3c
Listens	4	4a 4b
Gives Information	5	5a $5b_1$ $5b_2$ $5b_y$ 5c 5d
Gives Suggestions	6	6
Gives Directions	7	7a 7d
Gives Opinion	8	8b 8c
Gives Analysis	9	9

Table 6--Continued

Category Title	Category Code	
	Original System	Extended System
Shows Positive Feeling	10	
Expresses Approval of Pupil or of His Behavior		10a 10b
Inhibits Communication	11	11
Shows Negative Feeling	12	
Expresses Disapproval of Pupil or of His Behavior		12a 12b
No Communication	13	13
Confirms or Denies Accuracy of Response	--	14a 14c
Perfunctory Agreement or Disagreement	14	--
Perfunctory Response	--	14b
Repeats What Pupil Has Said		
Repeats Factual Statement		RF
Repeats Statement of Opinion		RO
Repeats Analysis		RA
Repeats Statement of Experience		RE
Repeats Question		RQ
Names Pupil Following Question	--	N
Fragmentary Comment	--	F

for general data collecting, although its development was dependent upon both live and taped episodes. Thus, all analyses utilizing the extended category system are based on tape recordings.

Table 7

AVAILABILITY OF DATA FOR CATEGORIES
FOR ANALYZING VERBAL INTERACTION

Stage of Subject Participation	Category System Original 14	 Extended 39
Junior Year	Live	--
Senior Year	Live or Tape	Tape
First-Year Teaching	Live or Tape	Tape

Some Influences in the Development of a Category System

The goal in the work on category systems in this project has been to develop an objectively defined set of categories relevant to the communication construct and reasonably complete in the description of the kinds of teacher communication behaviors. As we worked with the systems, it became increasingly apparent that an analysis of the teacher's verbal communication which is intended to be objective and reliable can be conducted from many points of view and levels of inference and abstraction. Furthermore, the particular vantage point selected will reflect (intentionally or not) the assumptions made (with awareness or not) about what are some of the important aspects of classroom interaction. In an attempt to clarify our own point of view, we have stated the following assumptions which have influenced our thinking about the teacher's behavior in the classroom. We assume that it makes a difference to the learners if the teacher:

1. Encourages learners to talk about their personal experiences (both cognitive and noncognitive) and the meaning and interpretation they give these experiences, as well as asking them for academic information.

2. Shares her own personal experiences with the learners, and expresses her personal interpretations and feelings, in addition to giving academic information.

3. Creates a climate in which spontaneous affective and cognitive reactions are expressed by the learners, rather than a climate in which she consistently calls on learners and listens to them only when they respond to her questions and directions.

4. Expresses approval of a learner's behavior or contribution, rather than merely confirming the accuracy of his answers.

5. Encourages a learner at the same time that she denies the accuracy of at least part of his response, rather than merely denying the accuracy of his response or expressing disapproval of his performance.

6. Asks for and accepts learners' suggestions and preferences, rather than always imposing her own will on the class.

7. Analyzes some of the material presented and asks the learners to analyze and illustrate it, rather than merely presenting material as factual information to be learned as stated.

8. Offers suggestions which indicate alternatives and imply autonomy for the learner, rather than giving frequent directions to be followed precisely.

The Fourteen and the Extended Category Systems for Analyzing Verbal Interaction

Descriptions and examples of the categories in the original and extended systems follow. Although there is some duplication for all but five of the categories, several differences between the fourteen and the thirty-nine category systems will be noticed.

Fourteen Category System

1. Asks for Information

An act having as its major intent the eliciting of a response which presumably may be evaluated for accuracy, either by objective operation, general acceptance, or reference to an authority (such as the teacher or a textbook).

Examples: Asks question about content of lesson; asks for report; asks for confirmation of response previously given; asks for repetition of what has been said; offers incomplete statement with the expectation that another will finish it; asks any question in such a way as to imply that there is a "right" answer; asks name of an object, asks for definition; asks for enumeration.

2. Seeks or Accepts Direction

An act implying willingness to consider suggestion or direction from another, or if suggestion or direction already has been offered, an act or statement indicating compliance.

Examples: Asks how to begin an assigned task, asks what to do next; asks which procedure to follow; asks for volunteers; follows directions of another; agrees with suggestion or direction; indicates that direction will be followed at some future time; asks for permission for a specific act.

3. Asks for Opinion or Analysis

An act intended to elicit problem-structuring statements from others, either affective-evaluative or cognitive-interpretive.

Examples: Asks for opinion, wish, feeling, belief or preference, Asks for evaluation of behavior; requests interpretation or explanation of some phenomena without implying that there is one "correct" answer; requests elaboration or examples of a concept; requests statement of relationships by others; reflection of feeling or alternate meaning of what another has said for purposes of clarifying meaning; asks for interpretation of another's personal experience (as distinguished from asking for a report of experience).

4. Listens

An act of listening or attending to another individual for 5 consecutive seconds or more out of any 10-second interval (less than 5 seconds is not scored).

5. Gives Information

An act intended to convey, confirm, or infer "facts" which may be evaluated by objective operation, general acceptance, or reference to an authority.

Examples: Giving data such as names, dates, speed, capacity, etc. relevant to a topic under discussion; providing information requested by another; confirming the accuracy of others' responses; denying the accuracy of others' responses; giving report on what one has seen, heard, read, etc.; giving repetition of what has been said; naming object; giving definition; giving enumeration.

6. Gives Suggestion

An act intended to structure action or indicate alternatives for others which, at the same time, implies autonomy for others by providing more than one alternative or allowing for refusal.

Examples: Offering a procedure in a tentative way; offering two or more procedures; leaving choice to others; stating a preferred behavior, without indicating that the preference holds for others; volunteering own services.

7. Gives Direction

An act intended to structure some action of another in which compliance seems to be taken for granted, or in which non-compliance probably would elicit some form of disapproval.

Examples: Calling class to attention; calling attention to some detail; getting attention of another by calling his name; routine administrative directions or orders; stating expectation of behavior to be followed; setting limits on behavior; stating consequences of behavior; granting a request; denying a request.

8. Gives Opinion

An act intended to structure or give direction to a topic under discussion by use of speaker's internal, private or unstated criteria.

Examples: States opinions, wish, feeling, belief, or preference; makes a statement or asks a question reflecting a personal point of view; verbalizes introspective processes; gives criticism or evaluation of a behavior or concept; agrees or disagrees with opinion voiced by another.

9. Gives Analysis

An act intended to structure or give direction to a topic under discussion by reference to a frame of reference or a criterion that is explicitly stated and external to speaker's personal point of view.

Examples: Gives interpretation or explanation of some phenomenon without implying that it is the only "correct" way of looking at it; elaborates or gives examples of a concept; points out relationships between examples and concepts or between two or more concepts; points out discrepancies between concept and examples; proposes hypothetical example or case to illustrate a point or raise a question.

10. Shows Positive Feeling

An act which implies positive evaluation of some behavior or interaction in the observational field, regardless of whether the referent is the self or some other person.

Examples: Any friendly act or overture, such as greeting or responding to a greeting; praising, approving, encouraging, rewarding, or showing active attention to others; sharing or sympathizing with others; expressions of satisfaction, enjoyment, or relief; joking or laughing "with" others.

11. Inhibits Communication

An act which implies unwillingness or inability to engage in the ongoing process of communication, regardless of whether the act stems from negative evaluation, internal tension, or disinterest.

Examples: Does not respond when responses would ordinarily be expected; is cool, aloof, or disinterested in what is going on; is inattentive to or ignores a question or request; does not comply with a request; shows tension by blocking, "fright," etc.; accepts criticism or rebuff without reply.

12. Shows Negative Feeling

An act which implies active negative evaluation of some behavior or interaction in the observational field, regardless of whether the referent is the self or some other person.

Examples: Disapproving, disparaging, threatening, discouraging another's behavior; lowering another's status; defending or asserting self; poking fun, belittling, or laughing "at" others; expressing fear, rage, hostility, disappointment, discouragement, displeasure, unhappiness, etc.

13. No Communication

The behavior occurring in the classroom is not relevant to teacher-pupil communication for a 10-second interval.

14. Perfunctory Agreement or Disagreement

Extended Category System

1. Asks for Information

1a Asks for academically verifiable information. An act which has as its major intent the eliciting of a response which is academically verifiable.

Examples: Where is Chicago? What is the title of the story? What is another word for "our sun's family"? Spell "discount."

$1b_1$ Asking for information about or information regarding the occurrence of past, present, or future experience of an individual child or small group of children which is either non-routine in nature within the class or is outside the class.

Examples: How many of you have seen the mailboxes here in town? How many of you have been to the zoo at the park?

$1b_2$ Asking for information about or information regarding the occurrence of past, present, or future experience of the class as a whole, which either is non-routine in the class or is outside of the class.

Examples: Can you see the flag? Do you remember when we went to the bakery last fall?

$1b_y$ Asks for objective information within a personal frame of reference. This includes either individual children or the class as a whole.

Examples: What is the name of the street you live on? Is your father a fireman? Do you know where you were born?

1c Asks for other kinds of information, primarily having to do with class process and procedures. Includes all routine classroom experiences.

Examples: Who has the book? Where is the paper cutter? Have you finished your work? Who needs extra work sheets?

2. Seeks or Accepts Direction

An act implying willingness or desire to consider suggestion or direction from another, or if suggestion or direction already has been offered, an act or statement indicating acceptance.

Examples: Who else has an idea? Recognizing a child by calling on him "John?" (not in response to a prior question on his part)

3. Asks for Analysis

3a An act requesting interpretation or explanation of phenomena, elaboration of examples of a concept, a statement of relationship between concepts, a statement of causation or analogy, a statement of deductive or inductive reasoning, statements of generalizations or hypotheses.

Examples: How would you explain this, John? Can you give us examples of this? What conclusions would you draw from this?

3b Asks for personal opinion, personal interpretation or feelings about subject matter.

An act intended to elicit an expression of personal opinion or feeling about subject matter.

Examples: What do you think he will do? How do you feel about President Lincoln's stand on secession? Would you like to be an astronaut?

3c Asks for report of personal opinion, personal interpretation, or expression of feeling about things not related to subject matter?

Examples: How did you feel when you couldn't go? Are you still a little bit afraid of it?

4a Listening or attending to an individual in response to communication initiated by the teacher, either asked for or directed.

Examples: Responses to: Read the next paragraph. Tell us...

4b Listening or attending to an individual in response to communication initiated by someone other than the teacher.

5. Gives Information

5a Gives academically verifiable information.

Examples: The sun is a star. Today is Tuesday. Here is the location of Panama.

$5b_1$ Gives information about (or information regarding the occurrence of, or regarding the meaning of) past, present, or future experience of an individual child or small group of children, which either is non-routine in nature within the class or is outside the class.

Examples: Lou knows what it is like to feed a puppy. Sally has seen the Fountain of Youth in Florida.

$5b_2$ Gives information about (or information regarding the occurrence of, or regarding the meaning of) past, present, or future experience of the class as a group, which is non-routine within the class or is outside of the class. (The teacher may or may not include herself in giving this information.)

Examples: We went to the zoo last fall. Tomorrow we will see a film strip about sun-spots.

$5b_y$ Gives objective information within a personal frame of reference for an individual child, small group or entire class, and/or the teacher.

Examples: Mike brought a picture of a tugboard today. There is a squirrel outside the classroom window. Goodness, you remember lots.

5c Gives other kinds of information primarily pertaining to classroom processes or procedures. It also may include routine classroom experiences.

Examples: The reference books are over here. Tomorrow we will start work on these maps.

5d Gives information about an experience or the occurrence of an experience of the teacher which either is non-routine within the class or outside of the class.

Examples: I have seen the nation's capital. I have a mailbox at home and the mailman comes to my door. I have a dog, too!

(Note: Comments about the meaning of the experience would go into 8b or 8c.)

6 Gives Suggestion

An act intended to suggest action or indicate alternatives for another person while, at the same time, implying autonomy by providing more than one alternative or allowing for refusal.

Examples: You might want to see what the encyclopedia has to say. Maybe you can think of a better title later.

7a Gives Administrative Directions

An act intended to structure some action in which compliance seems to be taken for granted, or in which noncompliance probably would elicit some form of disapproval. Structuring is related to administrative aspects of the situation.

Examples: John's reading group will start now. Take out your paper.

7d Gives Disciplinary Directions

An act intended to structure some behavior or other in which compliance seems to be taken for granted, or in which non-compliance would elicit some form of disapproval. Structuring is related to disciplinary aspects of the situation, but is not accompanied by negative feeling.

Examples: Sh-h. We're too noisy. Please sit down and wait for me. If you do that again, I will have to ask you to leave the group.

8b Gives personal opinion, personal interpretation or expresses feelings about the subject matter.

An act intended to express opinion, attitudes, feelings about subject matter.

Examples: I like that one better. I'm sorry. I didn't understand what you said. Then it's my fault. I'll change your mark.

8c Gives report of personal opinion or personal interpretation, or expresses feeling about things not related to subject matter.

Examples: I will always remember how badly we felt when the barn burned. It makes me feel very happy when you do things like that.

9. Gives Analysis

An act intended to structure a topic under discussion by reference to a point of view or criterion that is explicitly stated and/or external to speaker's personal point of view; if made up of a series of 5a's, then put brackets around them in order to indicate that their total equals a 9.

Examples: When things are different temperatures, they are different colors. It couldn't very well be, with all the hot gases.

10a An act implying or expressing approval of a child's behavior, e.g. academic performance, ideas, etc. The act implies that the child is viewed as an object rather than a unique individual. It may be expressed with or without feeling.

Examples: That's a fine report, John! You're really perking today! That would be a joke on all of us, wouldn't it?

10b An act implying that the teacher is expressing the prizing of the child as a unique individual, i.e. shows acceptance of the child as he is now, positive regard of the student as a unique person.

Examples: John, you're a fine boy. I like you a lot.

11. Inhibits Communication

An act which implies unwillingness to engage in or inattentiveness to the ongoing process of communication, regardless of whether the act stems from negative evaluation, internal tension, or disinterest. (This often is scored with another unit when the teacher raises his voice and disregards what the children are saying.)

12a An act which implies or expresses disapproval of a child's behavior, e.g. academic performance, ideas, etc. The act implies that the child is viewed as an object rather than a unique individual. It may be expressed with or without feeling.

Examples: Wally, will you sit down! We can't have that.

12b An act implying that the teacher is expressing the devaluing of the child as a unique individual. i.e. shows disapproval of the child as he is now.

Examples: Gary, you're a pest all the time. I really don't like you now.

13. No evidence that the teacher is responding to communication in the classroom, although voices can be discerned on the tape.

14a An act which has as its major intent the confirmation or denial of the accuracy of a response. It may be said with or without feeling.

Examples: No. That's right.

14b An act which confirms the partial accuracy of a response and implies that additional information is desirable or needed. The act must have an encouraging tone for the respondent to continue.

Examples: Yes, but what else? Right, but who else knows a reason?

14c Perfunctory remarks, which may imply mere closure.

Examples: O. K. Um-hum. Well-l.

(R) Repeats what the student has said, either verbatim or general context.

RF	Fact
RO	Opinion
RA	Analysis
RE	Experience
RQ	Questions

N Calls on the child after a discernible pause, following a question.

Examples: 1. John? 2. Who is the President? John?

Fragmentary comment--incomplete and not a meaningful unit by itself. The teacher must change the direction of communication, in order for this to be scored, i.e. repeating, pausing, ah's, etc.

Unit of Analysis

Up until the summer of 1963, the category system was used as a time sampling method--first with a 10-second unit and later, a 5-second unit. For each 5-second period a category was recorded which, in the judgment of the observer, represented the teacher's "dominant intent" during that interval.[9] Later it became clear that since several communication acts frequently occur within one 5-second interval, the use of only one category to represent this period of time gives only a partial picture and also reduces reliability among judges.*

For these reasons, during the spring and summer of 1963 we developed the *communication unit* as the basis for analysis. By this method, a much more complete picture of the classroom interaction is obtained, because everything the teacher says can be categorized in sequence. For the definition of a *communication unit* we have used Saporta's early definition of a psycholinguistic unit as the "segment of the message which is 'functionally operative' as a whole in the process of encoding and decoding."[10]* The problem of developing criteria to

---

[9] John Withall, John M. Newell, and W. W. Lewis, "An Analysis of Classroom Patterns of Communication," *Psychological Reports*, Vol.IX, 1961, p. 46.

*After intensive training, the intra-rater stability coefficients, using the Spearman statistic ρ , ranged from .69 to .99 for six categorizers. Their inter-rater agreement, using the same statistic, ranged from .84 to .99. In both instances, identical segments taken from tape recordings were categorized independently at two different times by each categorizer. However, this statistic appeared to provide spuriously high coefficients because of the preponderantly high frequency of relatively few categories in the segments and the very low frequency of most of the categories. Hence coefficients were computed to show inter-rater agreement in each 5-second interval, correlating each of five categorizers with a sixth who was most highly practiced in using the system; these coefficients ranged from .33 to .74.

[10] S. Saporta, "Relations Between Psychological Linguistic Units," *Journal of Abnormal and Social Psychology*, 1954, 49, p. 61.

*Many researchers have encountered the problem of defining a "verbalization unit." In summarizing methods of studying speech development in children, Irwin discusses the problem of defining the sentence or verbalization and indicates some of the ways in which different workers have handled it. Both a "thought unit" and an "expression unit" have been defined in terms quite similar to our criteria for determining a "communication unit".

determine when a segment is "functionally operative as a whole" is essentially that of identifying and defining "boundary markers" or objective indications that the sender has completed a unit of communication, which, in addition, is "functionally operative; as a unit for the receiver. Intonation pattern has been our principal criterion; a drop in the voice (or a rise, if a question is asked) almost invariably indicates the end of the unite. However, the context within which words are spoken and the grammatical structure also must be taken into account at times in making the decision. There are certain words in our language which, when spoken singly in response to another person (such as "good," "no," and "yes), convey a functionally operative meaning. Occasionally a teacher may say such a word and then continue with an elaboration. In these instances the separate word would be counted as one unit and the elaboration as another, since each could stand alone in this context and convey meaning to the listener. Grammatical structure as a further criterion is useful both when the sender is expressing units in succession (as, for example, several independent clauses strung together without a drop in voice, in which case each would be counted as a unit) or expressing an after-thought following a drop in a voice. If the after-thought is of a dependent nature (a qualifying phrase or clause) it would not be counted as a separate unit as it could not stand alone or be functionally operative.

Agreement is high in the identification of units. Five different persons, two of whom analyzed each of forty 5-minute segments, showed a range of 81 to 100 percent agreement in the number of units identified, with the agreement in more than half the segments 95 percent or higher.

There are primarily two advantages in using the communication unit, instead of a time-sampling method, as the basis for categorization: (1) categorizers are categorizing the same verbalization of the teacher instead of having to decide which verbalization represents the "dominant intent" during the interval of time covered; and (2) a complete sequence of verbalizations is recorded so that sequence analysis can be carried out.

Summary

In summary, the use of the communication construct has seemed to be a fruitful way of examining classroom interaction, as it provides a framework for analyzing the teacher's role in the classroom and describing in objective terms certain aspects of her behaviors. As we have worked with our evolving schemata for describing the teacher's communication behaviors, we have become progressively aware of the complexity of this behavior and of the limitations of any one system in describing it. At the present time, however, analysis in terms of the communication unit appears both feasible and promising.

BIBLIOGRAPHY

Bales, R. F. *Interaction Process Analysis: A Method for the Study of Small Groups*. Cambridge, Mass.: Addison-Wesley, 1950.

Cherry, C. *On Human Communication*. New York: Science Editions, Inc., 1961, 324 pp.

Communication and Mental Health. Teacher Education Research Project, Madison, Wis.: University of Wisconsin, School of Education, 1960, 15 pp. (ditto)

Hall, E. T. *The Silent Language*. Garden City, New York: Doubleday, 1959.

Irwin, O. C. "Language and Communication." In Mussen, P. H. (Ed.) *Handbook of Research Methods in Child Development*, New York: Wiley, 1960, pp. 487-516.

Lewis, W. W. "Selected Concepts of Communication as a Basis for Studying Mental Health in the Classroom." *Journal of Communication*, 1961, II, pp. 157-162.

Saporta, S. "Relations Between Psychological and Linguistic Units." *Journal of Abnormal and Social Psychology*, 1954, 49, pp. 60-66.

Schramm, W. *The Process and Effects of Mass Communication*. Urbana: University of Illinois Press, 1961, 572 pp.

Withall, J. "The Development of a Technique for the Measurement of Social-emotional Climate in Classrooms." Unpublished Doctoral dissertation, Chicago: University of Chicago, 1948.

____________. "The Development of a Technique for the Measurement of Social-emotional Climate in Classrooms." *Journal of Experimental Education*, 1949, *17*, pp. 374-61.

____________. with John M. Newell and W. W. Lewis. "An Analysis of Classroom Patterns of Communication," *Psychological Reports*, Vol. IX, 1961.

Zimmerman, C. and R. A. Bauer. "The Effect of an Audience Upon What Is Remembered." In Maccoby, E. E., T. M. Newcomb and E. L. Hartley (Eds.), *Readings in Social Psychology*, New York: Henry Hold, 1958, pp. 67-71.

CHAPTER V

THE FOURTEEN CATEGORY SYSTEM OF INTERACTION ANALYSIS

by

John Withall, M. Vere DeVault, John A. Zahorik

This study is concerned with communication behavior of professors and student teachers as analyzed by a fourteen category observational scale. An attempt will be made to relate patterns of verbal communication to each of three experimental teaching approaches. The study first deals with the communication behavior of three university instructors using three different instructional approaches. A second concern is with the extent to which the verbal communication behavior of the instructors was adopted by the student teachers whom they taught as these student teachers taught elementary school learners. A third concern is with changes that took place in student teacher communication behavior over a three-year span. A fourth concern deals with the relationship of the communication behavior of these student teachers as first-year teachers to several selected aspects of pupil perception.

Verbal Communication Behavior of Three University Professors, Each Using a Different Teaching Approach

The Problem

The quest for more effective and efficient teaching methods has been pressed for some time at all levels of instruction. The chapter by McKeachie in the Handbook of Research on Teaching[1] presents most of the recent research on teaching methods in colleges and universities. The research has assessed the value of lecturing, discussion, laboratory projects, independent study, and automated procedures. Likewise, the studies reported by Dawson,[2] Jersild,[3] Knight-Mickelson,[4] Novak,[5] Craig,[6] and Faw[7] examine some of the research done at other levels of instruction. The issue, as McKeachie points out, really has to be redefined in terms of a) what methods are best suited to achieve which goals, and b) what criterion measures of achievement are used.

---

[1] W. J. McKeachie, in Handbook of Research on Teaching, A project of the American Educational Research Association (Chicago: Rand McNally, 1963).

More recently the question of the learner's performance and achievement has been postponed in favor of describing the teaching-learning act itself.[8] It is the purpose of the first behavior of these university instructors, each of whom used a different instructional approach. Such a description provides operational definitions of the differences among the three approaches in terms of verbal communication behavior during the teaching-learning act.

---

[2] Murray D. Dawson, "Lecture Versus Problem Solving in Teaching Elementary School Science," Science Education, XL, 1956, pp. 395-404.

[3] A. T. Jersild and others, "An Evaluation of Aspects of the Activity Program in the New York City Public Elementary Schools," Journal of Experimental Education, VIII, December 1939, pp. 166-207.

[4] S. S. Knight and J. M. Mickelson, "Problems vs. Subjects," The Clearing House, XXIV, September 1949, pp. 3-7.

[5] J. D. Novak, "An Experimental Comparison of a Conventional and a Project Centered Method of Teaching a College General Botany Course," Journal of Experimental Education, XXVI, 1958, pp. 117-30.

[6] R. C. Craig, "Directed vs. Independent Discovery of Established Relations," Journal of Educational Psychology, XLVII, 1956, pp.223-34.

[7] V. C. A. Faw. "A Psychotherapeutic Method of Teaching Psychology," American Psychologist, IV, 1949, pp. 104-09.

[8] N. L. Gage (Ed.), Handbook of Research on Teaching, A project of the American Educational Research Association (Chicago: Rand McNally, 1963) pp. 247.

The teaching approaches investigated are labelled in this study: 1) the concept-centered approach, 2) the case study approach, and 3) the learner-centered approach. The content matter, regardless of the approach, was developmental psychology and learning theory as applicable to the elementary school. The overriding goal in each approach was to afford the student teachers the best type of pre-service preparation in the domains of child growth and development and theories of instruction related to elementary education. The concept-centered teaching approach sought to make clear to the student teachers the crucial principles, concepts, and generalizations of child development and teaching-learning theory. The case study approach utilized case studies of individual children to help students to understand basic principles of child development and child learning. The learner-centered approach was one in which the student was exposed to a learning climate which encouraged and enabled him to identify and develop his own learning goals and own learning pace and procedures. (For a complete description and an analysis of these three approaches, see Chapter 3.)

The verbal communication behaviors of the three university instructors were identified and classified by means of a fourteen category observation scale. The labels of the fourteen categories are 1) Asks for Information, 2) Seeks or Accepts Direction, 3) Asks for Opinion or Analysis, 4) Listens, 5) Gives Information, 6) Gives Suggestion, 7) Gives Direction, 8) Gives Opinion, 9) Gives Analysis, 10) Shows Positive Feeling, 11) Inhibits Communications, 12) Shows Negative Feeling, 13) No Communication, and 14) Perfunctory Agreement or Disagreement.[9] (For a complete description of this observational scale see Chapter 4.)

The following hypotheses were proposed regarding the use of the various categories of verbal communication behavior by the university instructors in each of the three approaches:

A. With higher proportions than either of the other two approaches, the concept-centered approach will be represented by categories:

1. Asks for Information

5. Gives Information

7. Gives Direction

---

[9] W. W. Lewis, John M. Newell, and John Withall, "An Analysis of Classroom Patterns of Communication," Psychological Reports, October 1961.

B. With higher proportions than either of the other two approaches, the case study approach will be represented by categories:

3. Asks for Opinion or Analysis
8. Gives Opinion
9. Gives Analysis

C. With higher proportions than either of the other two approaches, the learner-centered approach will be represented by categories:

2. Seeks and Accepts Direction
4. Listens
6. Gives Suggestion
10. Shows Positive Feeling

Procedure

To determine the differences in communication behavior of teachers using these teaching approaches, three university professors each employed one of the instructional approaches in teaching two educational psychology courses to junior year elementary education students at the University of Wisconsin. The two courses were The Child: His Nature and His Needs, and The Nature and Direction of Learning, taught during the fall and spring semesters, respectively. A total of 61 students were randomly assigned to each of the three teaching approaches. Live observations, using the fourteen category observation scale, were made of the three groups throughout the year by trained observers. Every 5 seconds during an observation, the observer recorded the type of communication that was occurring. Time proportional usage for each category was computed. To determine the significance of differences among the proportions of behaviors of the three teaching approaches, z- tests were used.

Results

Analysis of the three instructors' communication with the fourteen category observation scale yielded a total of 30,461 behaviors.[10] Of this total, 9,868 behaviors were recorded for the concept-centered approach, 10,602 for the case study approach, and 9,991 for the learner-centered approach. The distribution of these behaviors among the fourteen categories for each of the three approaches is presented in

---

[10] Richard P. Cook, Susan Reiter, and Terry CoBabe, "Results of Classroom Observational Categories Within a Communication Model." Teacher Education Research Project Reports 1960-62, Volume II (unpublished mimeographed report, University of Wisconsin, 1962.)

Table 8 to correspond with the hypotheses which were established for each of the three approaches.

Concept-centered approach. The hypotheses established for the concept-centered approach are rejected. There were no significant differences among the three approaches for the proportions of category 1, Asks for Information. Both the concept-centered and the case study approaches were represented by greater use of the other two hypothesized categories than was the learner-centered approach. Apparently two of the approaches used approximately equal proportions of Gives Information and Gives Directions, whereas the instructor in the learner-centered approach gave both Information and Directions less than the other two instructors.

Case study approach. Generally the hypotheses for the case study-centered approach are accepted. The instructor using the case study approach did use more of each of the three hypothesized categories than either of the other instructors and in all but one instance in relation to one of the other two approaches, these differences were statistically significant. It would seem that the case study approach instructor did Ask for Opinion or Analyses more than either of the other instructors and Gave Opinions more frequently than did the concept-centered instructor.

Learner-centered approach. Two of the four hypotheses established relative to the learner-centered approach are accepted and two are rejected. A significantly larger proportion of the learner-centered instructor's communication behavior consisted of Listening and of Giving Suggestions than did the communication of either of the other instructors. Although the learner-centered instructor also used more behavior which included Seeking and Accepting Direction and Showing Positive Feeling than the other instructors, these differences were not significant.

Conclusions

The purpose of the present analysis was to determine the extent to which the instructors in the various approaches actualized through their communication behavior the instructional methods which they espoused in statements concerning their basic theory of instruction. Ten hypotheses were established and, of these, four were accepted. Two of the accepted hypotheses were those related to the case study approach and two were related to the learner-centered approach. There seems to be clear evidence that the case study instructor did utilize communication behavior which differed from the other instructors in some pattern which was congruent with his expressed intentions as reported in Chapter 3. Likewise, the learner-centered instructor utilized behavior which was congruent with hypothesized expectations growing out of his expressed beliefs about a theory of instruction. There seems to be less evidence that the concept-centered instructor used communication which was uniquely different from each of the other approaches in hypothesized directions.

Table 8

PROPORTIONAL USE OF CATEGORIES
OF COMMUNICATION BEHAVIOR BY
UNIVERSITY INSTRUCTORS

Categories	Concept-Centered	Approach Case Study	Learner-Centered
Higher proportions hypothesized by:			
Concept-centered			
1. Asks for Information	1.05	1.92	1.10[1]
5. Gives Information	33.53	34.82 > **	7.29
7. Gives Direction	5.50	4.02 > **	.74
Case Study			
3. Asks for Opinion and Analysis	3.67 < **	9.11 > **	5.46
8. Gives Opinion	5.03 < **	7.58	6.81
9. Gives Analysis	17.66 < **	22.97 > **	8.07
Learner-centered			
2. Seeks and Accepts Direction	.56	.21	1.29
4. Listens	27.80	13.42 < **	55.94
6. Gives Suggestions	.49	.62 < **	9.39
10. Shows Positive Feeling	.63	.81	1.06
Non-hypothesized			
11. Inhibits Communication	.02	.04	.01
12. Shows Negative Feeling	.06	.01	.00
13. No Communication	4.09	4.14 > **	2.68
14. Perfunctory	.44	.32	.17

[1] Data are reported in percentages.

**Significant at .01 level.

It can be concluded that verbal communication behavior of the three university professors, each consistently employing a different instructional approach, was significantly different in the proportional use of behaviors of Asking for Opinion or Analysis, Listening, Giving Information, Giving Suggestions, Giving Directions, and Giving Analysis. These differences, however, were not exclusively in the hypothesized directions. The verbal communication behavior of the instructor using the concept-centered teaching approach can be described as having consisted of the greatest use of Giving Directions, and the least use of Asking for Analysis or Opinion and Giving Suggestions. The verbal communication behavior of the instructor using the case study teaching approach can be described as having consisted of the greatest use of Asking for Opinion and Analysis, Giving Information, and Giving Analysis, and the least use of Listening. The verbal communication behavior of the instructor using the learner-centered teaching approach can be described as having consisted of the greatest use of Listening and Giving Suggestions, and the least use of Giving Information, Giving Directions, and Giving Analysis.

The pedagogical beliefs and methods of the three university instructors apparently had an effect on their verbal behavior in the teaching-learning situation. The three teaching approaches can be said to differ, not merely in professed approach, but in the communication behavior of the instructor in the interactive classroom situation.

The Adoption by Student Teachers of the Verbal Communication Behavior of Their Instructors

The Problem

It has been said that teachers often do not teach according to knowledge they have acquired from courses in their teacher education programs, but rather they model their classroom behavior according to the way some teacher has taught them in the past.[11] A memory of a second grade teacher teaching arithmetic or a sixth grade teacher showing films may be used as a guide to a developing teaching style. But, what about the university or college teacher? Is it possible that a student teacher will adopt the teaching method used by an instructor in two of his education courses? Does a university instructor's way of teaching transfer to the student teacher when the student teacher is engaged in teaching elementary school children? This is the problem of the study reported in this section.

---

[11] John Withall, Morey Appell, and John M. Newell, "Student-Teachers' Concepts for Describing Their Most Esteemed and Most Disliked Teacher" (paper presented at American Educational Research Association Convention, February 20, 1962.)

Previously it was shown that the classroom behavior of three instructors, each using a different teaching approach, differed significantly in four hypothesized categories of communication behavior. The student teachers of each approach were exposed, therefore, to approaches that did differ in verbal communication behavior. It was the purpose of this part of the study to examine the communication behavior of the student teachers as they taught elementary school children over a period of three years (junior, senior, first-year) to determine if they adopted the communication patterns of their respective university instructors. The verbal communication behavior of the student teachers was categorized and analyzed with the same fourteen category observation system used with the instructors.

Procedure

To determine the adoption of the verbal communication behavior of the three university instructors by their students, the communication behavior of eleven students of each of the three approaches was analyzed. Communication behavior was observed six times and analyzed using the fourteen category system. The communication behavior of the thirty-three students was analyzed twice during the junior year of student teaching while they were students in the two educational psychology courses, twice during the senior year of student teaching and twice during the first year of full-time teaching. Nearly all of the observations were made of either science or social studies lessons. The mean proportional use of each category of communication for the eleven teachers of each approach was determined for each of the six observations. From the six observations a total mean proportional use of each category for the teachers of the concept-centered approach, the case study approach and the learner-centered approach was then computed. It is this total mean that was used as a basis for comparison among approaches and between instructors' communication patterns and student teachers' communication patterns. To determine significance of differences, a 3 x 6 analysis of variance was used.

Results

The total mean proportional use of each of the fourteen communication categories by the eleven teachers of each approach is presented in Table 9. Analysis of variance for these data is presented in Appendix E. Of the fourteen categories, the only significant differences were those related to category 2, Seeks and Accepts Direction. This was not one of the categories which significantly differentiated the instruction of the three college instructors.

Conclusions

It must be concluded that the verbal communication behavior of student teachers as they interacted with elementary pupils in the teaching-learning situation did not reflect the communication behavior of their university instructors. The communication patterns of the three instructors, each employing a different teaching approach, were found to have differed significantly in several aspects, but the student teachers who were exposed to these different patterns apparently did not adopt and use them.

There are several conjectures which might be made concerning the relative non-transfer of one form or style of verbal communication behavior from college instructors to neophyte elementary teachers.

1. There was little or no analysis of the behaviors being utilized by each instructor in his classes; that is, the old adage was accepted that "experience is the best teacher." The facts argue otherwise and indicate that analyzed and evaluated experience may be the best teacher.

2. The specific verbal behaviors and strategies that the college instructors used[12] and wanted their charges to use were not described, spelled out, or specifically highlighted.

3. The remembered strategies and verbal behaviors of public school teachers or cooperating teachers were more potent and predominant than were those of the education professor.[13]

4. The variety of pressures which impinge upon first-year teachers contribute to the beginning teachers' lack of development of a consistent teacher behavior style which is congruent with basic philosophical and psychological principles to which these individuals would normally adhere. It may be expected that these principles become increasingly apparent in one's teaching behavior in years following initial teaching experience.

---

[12] Harold E. Mitzel, "A New Purpose for Student Teaching" (paper presented at the Eighth Annual Conference of New York State Association of Student Teaching, Cornell University, May 15, 1964.)

[13] John Withall, "Mental Health-Teacher Education Research Project," Journal of Teacher Education, Sept. 1963, pp. 323-324.

Table 9

MEAN PROPORTIONAL USE OF FOURTEEN CATEGORIES
OF COMMUNICATION BEHAVIOR BY
THIRTY-THREE TEACHERS

Categories	Concept-Centered	Approach Case Study	Learner-Centered
1. Asks for Information	16.23	15.53	14.19*
2. Seeks or Accepts Direction	2.31	3.47	2.47xx
3. Asks for Opinion or Analysis	5.46	6.49	7.01
4. Listens	24.78	24.67	24.53
5. Gives Information	21.89	20.14	21.26
6. Gives Suggestion	1.25	.68	.70
7. Gives Direction	12.97	11.90	12.82
8. Gives Opinion	2.25	2.08	2.35
9. Gives Analysis	2.25	3.64	3.04
10. Shows Positive Feeling	1.42	1.85	2.12
11. Inhibits Communication	.35	.14	.33
12. Shows Negative Feeling	.83	.79	.78
13. No Communication	5.04	5.05	4.61
14. Perfunctory	2.62	2.28	2.36

*Data are reported in percentages.

xxDifferences significant at the .05 level.

The Variability Over Time of the Verbal Communication Behavior of Student Teachers

The Problem

The purpose of this part of the study was to determine the nature of changes in the verbal communication behavior of student teachers as they progressed through student teaching at the junior and senior levels and first year full-time teaching. The specific problem to be investigated was:

> What changes, if any, took place in the use of the fourteen categories of verbal communication by thirty-three teachers over a three-year time span from the university junior year through the first year of full-time teaching?

Procedure

In the second part of the study teacher communication behavior was examined in relation to the communication style of the university instructor to which the student had been exposed. In this part of the study the same analysis of variance date (see Appendix E) were used and in this instance the results related to the main effect of time were examined. It will be remembered that the six observations consisted of two observations during the junior, two during the senior year, and two during the first year of full-time teaching. The observations of the students or student teachers were made in October and May. Those of the students as full-time teachers were made in October, in January, and in May, but for this aspect of the study were analyzed only for October and January.

Results

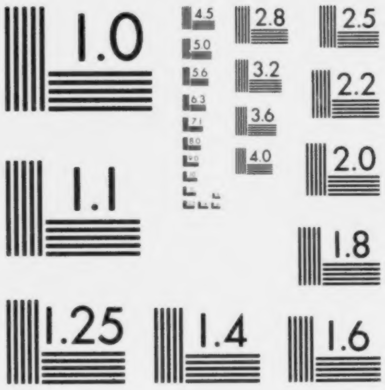
The six observation means and a total mean for all thirty-three teachers on each of the fourteen communication categories are reported in Table 10. An examination of this table shows the changes that took place in the communication behavior over the three years.

Several consistent changes took place during the three-year period. There were generally consistent decreases in use over the three-year time span for categories 1, Asks for Information; 3, Asks for Opinion or Analysis; 10, Shows Feeling; 12, Shows Negative Feeling; and 14, Perfunctory. Increases occurred in the use of categories 4, Listens, and 5, Gives Information. In the use of the other categories no clear change trends seem to emerge.

3 OF 5

ED

061 170


1.0
4.5
5.0
5.6
6.3
7.1
8.0
9.0
2.8
3.2
3.6
4.0
2.5
2.2
2.0
1.1
1.8
1.25
1.4
1.6

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

In addition to these general inter-year patterns, several specific pattern variations are noteworthy. The use of category 2, Seeks or Accepts Direction, during the first observation was considerably less than during the other observations. There was a decrease also in the use, during the second observation, of category 5, Gives Information. The use of category 14, Perfunctory, was much less during both the fifth and sixth observations than during the previous observations.

Conclusion

It may be concluded in this study that verbalization changes occurred over the three-year time span. As the student teachers developed from novices to full-time teachers they asked for less information, opinion, and analysis; showed less positive and less negative feeling; and employed fewer perfunctory remarks. At the same time they listened more and gave more information. Also, as beginning student teachers, the subjects did little seeking and accepting of direction. As experienced teachers the subjects' use of perfunctory remarks decreased noticeably.

The Relationship of Teacher Verbal Communication Behavior to Selected Aspects of Pupil Perception

The Problem

This part of the study concentrated on the verbal communication behavior that the thirty-three student teachers used as first-year teachers and how that communication behavior was related to several aspects of pupil perception: self-self ideal discrepancy, actual self concept, peer perception, teacher-teacher ideal communication discrepancy, and school attitude. Specifically, the major problem and sub-problems investigated were related to the question:

Is teacher verbal communication behavior related to pupil perception?

1. Is there a relationship between the use of any of the fourteen categories of teacher communication and self-self ideal discrepancy as perceived by girls, by boys, or by total class?
2. Is there a relationship between the use of any of the fourteen categories of teacher communication and actual self concept as socially acceptable, aggressive or withdrawn as perceived by girls, by boys, or by total class?

Table 10

MEAN PROPORTIONAL USE OF FOURTEEN CATEGORIES OF COMMUNICATION BEHAVIOR BY THIRTY-THREE TEACHERS DURING SIX OBSERVATIONS

Categories	Observation Period[1]						
	1	2	3	4	5	6	Total
1. Asks for Information	18.33	17.10	16.17	14.15	13.09	13.06	15.32*
2. Seeks or Accepts Direction	.73	3.40	3.81	2.34	2.97	3.20	2.75**
3. Asks for Opinion or Analysis	6.42	9.16	8.03	6.76	5.02	2.53	6.32**
4. Listens	22.26	20.76	21.25	23.75	29.90	30.05	24.66**
5. Gives Information	19.74	14.28	21.14	20.66	23.58	27.19	21.10**
6. Gives Suggestion	.30	1.28	.94	.72	.41	1.62	.88
7. Gives Direction	11.13	14.97	12.07	13.02	12.79	11.42	12.57
8. Gives Opinion	1.39	2.43	2.90	2.91	1.80	1.93	2.23*
9. Gives Analysis	4.05	3.84	3.15	4.06	1.34	1.42	2.98**
10. Shows Positive Feeling	3.01	2.31	1.68	1.68	.58	1.51	1.80**
11. Inhibits Communication	.51	.07	.32	.48	.17	.07	.27
12. Shows Negative Feeling	1.82	.96	.84	.35	.36	.47	.80**
13. No Communication	6.96	4.98	4.17	4.99	4.95	3.47	4.90
14. Perfunctory	3.33	4.25	3.29	2.94	.59	.11	2.42**

*Significant at .05 level.

**Significant at .01 level.

[1] Observations: 1, October, junior year; 2, May, junior year; 3, October, senior year; 4, May, senior year; 5, October, full-time teaching; 6, January, full-time teaching.

3. Is there a relationship between the use of any of the fourteen categories of teacher communication and peer perception as socially acceptable, aggressive, or withdrawn as perceived by girls, by boys, or by total class?

4. Is there a relationship between the use of any of the fourteen categories of teacher communication and teacher-teacher ideal communication discrepancy as perceived by girls, by boys, or by total class?

5. Is there a relationship between the use of any of the fourteen categories of teacher communication and school attitude as perceived by girls, by boys, or by total class?

Procedure

A series of Image Analyses[14] was done to determine the extent to which meaningful factors existed among the fourteen categories. These analyses were computed on data representing each of the six time periods at which observations were made. The lack of any consistent high factor loadings on these communication variables resulted in the conclusion that distinct communication factors were not present. Thus, data for each of the fourteen categories were accepted as discrete measures and were individually related to the pupil perception variables. Pupil perception in relation to self-self ideal discrepancy; actual self concept as socially acceptable, aggressive and withdrawn; peer perception as socially acceptable, aggressive and withdrawn; teacher-teacher ideal discrepancy; and school attitude was measured by four instruments as described in Chapter 2. The Pearson Product-Moment correlations were used to determine the realtionship between these pupil perception variables and the fourteen teacher verbal communication variables obtained at the mid-year data collection period.

Results

The significant correlation coefficients regarding the relationship between teacher communication and pupil perception are reported in Table 11. Of the fourteen teacher communication variables, all except category 3, Asks for Opinion and Analysis; category 6, Gives Opinion; category 8, Gives Suggestion; and category 9, Gives Analysis, were related at or beyond the .05 level of significance with one or more of the nine pupil perception variables for either total pupils, girls, or boys or some combination of these groups. The pupil perception correlates that were significant at or beyond the .10, .05, and .001 levels for each of the communication categories, as reported in

---

[14] John M. Antes, Dan Andersen, and M. Vere DeVault, "Elementary Pupils' Perceptions of the Social-Emotional Environment of the Classroom," Psychology in the Schools, II, January 1965, 41-46.

Table 11, will be discussed in turn. The .10 level was included to indicate some of the general trends reported in the data. Interpretations of relationships at this level should be made cautiously.

Asks for Information, the first communication category, was positively correlated with school attitude for total pupils with higher school attitudes than did pupils in classes where teachers less frequently asked for information. This relationship was true for girls and boys separately at the .10 level of significance.

The second communication category, Seeks or Accepts Direction, was positively correlated with self concept as aggressive for girls, but not for boys, and only at the .10 level for total pupils. Girls tended to see themselves as being more aggressive when their teachers used more Seeking and Accepting of Direction. This was not true for boys. Girls also were seen by others as being less withdrawn when their teachers used more Seeking and Accepting of Direction. Category 2 was negatively correlated with peer perception as withdrawn for girls and for total pupils, but not for boys.

Category 4, Listens, was positively correlated for total pupils, for girls, and for boys with self concept as withdrawn. The correlation for boys was significant at the .10 level. This relationship indicates that all children saw themselves as being more withdrawn when they were in classes with teachers who made the greatest use of listening. Listening was also positively correlated with boys' self concept as aggressive and with peer perception of boys as socially acceptable. Boys, but not girls, reported themselves as aggressive and were reported by others as socially acceptable when in classes in which teachers used larger proportions of listening communication behavior. This relationship was also true for total pupils at the .10 level of significance.

Category 5, Gives Information, was correlated with self-self ideal discrepancy in an interesting way. For girls, the correlation coefficient was negative at the .05 level, for boys it was positive at the .10 level, and for total pupils no significant correlation was reported. As teachers make more use of giving information, girls decrease their self-self ideal discrepancy, while boys tend to be more self-self ideal discrepant. These two contrasting relationships point up again the difference in the relationship of teacher communication to the perception of boys as compared to girls.

Gives Direction, the seventh communication category, was negatively correlated with pupils' self concept as aggressive. Children tended to view themselves as less aggressive when they were in classes with teachers who gave more directions. For girls, however, this relationship was significant only at the .10 level. Giving directions was also negatively correlated with peer perception of boys as socially acceptable.

Shows Positive Feeling, the tenth category or communication variable, was negatively correlated with peers' perception of boys as aggressive. Boys were seen by peers as less aggressive when in classes with teachers who used larger proportions of showing positive feeling.

Inhibits Communication, category 11, was positively correlated with boys' self concept as withdrawn. Teachers who used behavior which inhibited communication had boys who saw themselves as withdrawn. Again, this relationship was significant at the .10 level for total pupils, but was not significant for girls.

Category 12, Shows Negative Feeling, was negatively correlated with school attitude for girls, boys and for total pupils. The positive feelings of girls, boys and total pupils to school tended to decrease as the amount of negative feeling shown by teachers increased.

Category 12, No Communication, was negatively correlated with self concept as aggressive.

The last communication variable, category 14, representing Perfunctory behaviors, was negatively correlated with self concept as aggressive for girls. As perfunctory behavior increased, girls' aggression decreased.

To summarize these data, girls and boys alike had more positive school attitudes when teachers frequently asked for information; they saw themselves as withdrawn when teachers spent time listening; they saw themselves as less aggressive when teachers frequently gave information; and they had less positive school attitudes when teachers displayed large amounts of negative feeling. Girls alone viewed themselves as being aggressive and others viewed them as being less withdrawn when teachers spent considerable time seeking and accepting direction; they saw themselves as less aggressive when teachers employed such perfunctory behavior; and they had low self-self ideal discrepancy when teachers gave much information. Boys alone saw themselves as aggressive and they were viewed by others as being socially acceptable when teachers listened frequently; they were seen by others as not being socially acceptable when teachers gave directions often; they were viewed by others as being less aggressive when teachers displayed large amounts of positive feeling; and they saw themselves as withdrawn when teachers frequently inhibited communication.

It can be concluded, then, that teacher verbal communication behavior and pupil perception were related. They were significantly related in many respects, and apparently boys' and girls' perceptions were related in different ways to teacher communication.

Table 11

SIGNIFICANT CORRELATION COEFFICIENTS BETWEEN FOURTEEN TEACHER COMMUNICATION VARIABLES AND NINE PUPIL PERCEPTION VARIABLES OF THIRTY-THREE TEACHERS AND CLASSES OF PUPILS

Communication categories	Perception Variables								
	Self-Self Ideal Discrepancy	Self Concept-Socially Acceptable	Self Concept-Aggressive	Self Concept-Withdrawn	Peer Perception-Socially Acceptable	Peer Perception-Aggressive	Peer Perception-Withdrawn	Teacher-Teacher Ideal Discrepancy	School Attitude
1. Asks for Information									
Girls									.33*
Boys									.34*
Total						-.30*			.36**
2. Seeks or Accepts Direction									
Girls			.40**				-.38**	-.34*	
Boys									
Total			.32*				-.38**		
3. Asks for Opinion or Analysis									
Girls									
Boys									
Total									
4. Listens									
Girls				.50***			.31*		-.30*
Boys			.38**	.34*	.56***				
Total	.31*		.34*	.48***	.34*				
5. Gives Information									
Girls	-.41**	.34*							
Boys	.31*								.31*
Total		.31*		-.33*					

Table 11 (Continued)

Communication categories	Self-Self Ideal Discrepancy	Self Concept Socially Acceptable	Self Concept-Aggressive	Self Concept-Withdrawn	Peer Perception-Socially Acceptable	Peer Perception-Aggressive	Peer Perception-Withdrawn	Teacher-Teacher Ideal Discrepancy	School Attitude
	Perception Variables								
6. Gives Suggestion									
Girls				-.34*					
Boys									
Total									
7. Gives Direction									
Girls			-.33*						
Boys			-.41**		-.38**				
Total			-.44**		-.39**				
8. Gives Opinion									
Girls			.34*						
Boys		.31*						-.31*	
Total									
9. Gives Analysis									
Girls	-.30*								
Boys						.30*			
Total						.30*			
10. Shows Positive Feeling									
Girls									
Boys						-.38**			
Total						-.33*			
11. Inhibits Communication									
Girls									
Boys				.38**					
Total				.32*					

Table 11 (Continued)

Communication categories	Self-Self Ideal Discrepancy	Self Concept Socially Acceptable	Self Concept Aggressive	Self Concept-Withdrawn	Peer Perception-Socially Acceptable	Peer Perception-Aggressive	Peer Perception-Withdrawn	Teacher-Teacher Ideal Communication Discrepancy	School Attitude
	Perception Variables								
12. Shows Negative Feeling									
Girls									-.39**
Boys							.34*		-.46***
Total						.34*			-.46***
13. No Communication									
Girls			-.36**		-.31*				
Boys									
Total		-.32*							
14. Perfunctory									
Girls			-.35**						
Boys					-.34*				
Total									

*Significant at .10 level
**Significant at .05 level
***Significant at .005 level

Summary

It has been the purpose of this portion of the study to examine classroom communication behavior in relation to several variables. The first part of the study dealt with the relationship of instructor communication behavior to teaching approach. The second part examined the relationship between student teacher communication behavior and that of the instructor to whom the student had been exposed. The third part was concerned with teacher communication behavior change over a three-year period of time. The last part reported the relationship of teacher communication behavior to several pupil perception variables.

It was found that communication behavior of instructors using the different teaching approaches did involve the use of differing patterns of communication. It appears that student teachers did not adopt their instructor's communication styles in their own communication with elementary school pupils. Other results indicated that teacher verbal communication behavior changed over a three-year span, and that teacher verbal communication behavior was related to several types of pupil perception.

In all four parts of this study classroom verbal communication behavior was defined by and measured with the fourteen category communication system. The results of this study cast some light on the validity of this instrument, in addition to increasing knowledge concerning the problems that were investigated. The results of the first part indicate that the instrument has logical validity. The category use that was hypothesized to accompany each of the three teaching approaches was largely supported. The instrument discriminated among the communication behaviors of the instructors of the three approaches. The results of the last part indicate that the instrument also has some degree of predictive validity. One would expect frequent use of certain communication categories to be related to certain types of pupil perception, and to some extent they were. The existence of high negative feeling and its relationship to negative attitudes toward school represent one such example.

CHAPTER VI

THE EXTENDED CATEGORY SYSTEM OF INTERACTION ANALYSIS

by

M. Vere DeVault, Frank B. May and Jenny R. Armstrong

The fourteen category system described in Chapter 4 was developed and used initially for categorizing all teacher behavior. Observers were trained in the use of the system and participated in staff seminars designed to clarify a variety of issues related to the progress of the research. The fourteen categories and the manner of recording observations were constantly subjects of discussion and debate. Two problems seemed to be persistent enough to warrant rather extensive consideration which eventually resulted in a revised and extended observation system.

The first problem which provided concern was that of recording behavior every 5 seconds. It seemed clear that since several communication acts frequently occur within one 5 second interval, the use of only one category to represent this period of time gave only a partial picture of the teacher's behavior and also reduced agreement among judges. For these reasons, a communication unit analysis was built into the extended category system so that communication units could be recorded independent of any time segment.

The second problem which persistently confronted the observers was one of molarity. It seemed that several of the fourteen categories might be subdivided into additional categories. Asking for information, for instance, might represent meaningfully different kinds of communication. The teacher might ask for information which is academically verifiable or she might ask for information about the personal experience of a particular pupil. Similar divisions of other categories were developed and incorporated in the extended category system discussed in Chapter 4.

The present study was designed to answer two questions relative to teacher communication as assessed by the extended category system: 1. What variability in communication exists among categories, teachers, time observation periods, and instructional approaches? 2. What is the relationship of teacher communication to pupils' reported concepts of self, peers, teacher, and school?

Variability in Communication

A general picture of the variability of communication is represented by the analysis of variance date in Table 12. Significant differences are reported for two of the main effects, teachers and categories, and for three of the interactions. Additional analyses were made to study the variability by categories and by observation period over time. Analyses were also made of the variability by instructional approach.

Variability Among Categories

The variability among categories can be seen among the means presented in Table 13. These adjusted frequencies for thirty-three teachers range from a mean of .47, Expresses Disapproval, to 89.80, Listens to Response to Teacher. Other categories frequently used by teachers were, in order: Gives Academic Information, 66.46; Listens to Pupil-Initiated Talk, 55.06; Gives Procedural Information, 54.67; Gives Administrative Directions, 43.98; and Asks for Academic Information, 41.06. These high-frequency items are generally concerned with giving and asking for information and with management of the classroom routine. It is interesting to note that the personal categories tended to be relatively low-frequency items: Asks for Personal Information, 7.79; Asks for Personal Opinion About Subject Matter, 12.78; Asks for Personal Opinion Not Related to Subject Matter, 1.02; Gives Personal Information, 5.64; Gives Personal Information Outside Classroom Routine, 2.86; Gives Personal Opinion, 25.17; and Gives Personal Opinion Not Related to Subject Matter, 2.10. Except for Gives Personal Opinion, these items tended on the average to be used very little. It should be noted that a major reason for developing the extended category system was to include these types of personal items.

Variability Over Time

No significant differences by observation time were reported in Table 12. This finding tends to indicate some consistency of teacher communication behavior over the time of the five observation periods. The means for these observations are reported in Table 14. To further explore this question five separate Image Analyses; one for each of the observations, were made to determine the consistency of factors of teacher communication over the five observation periods.

Before Image Analysis could be employed, it was necessary to take into account that the observations were of unequal length, in terms of both time and speaking rate. In other words, not only did some teachers have longer lessons than others, some teachers produced many

Table 12

ANALYSIS OF VARIANCE OF FREQUENCIES
FOR THIRTY-SIX TEACHERS FOR
FIVE OBSERVATIONS AND THIRTY-NINE CATEGORIES

Source of Variation	Sum of Squares	df	Mean Square	F	P
Teachers (T)	63,589.46	35	1,816.84	5.10	.01
Categories (C)	3,096,637.61	38	81,490.46	228.90	.01
Observations (O)	513.44	4	128.36	.36	-
T C	787,391.16	1,330	592.02	1.67	.01
T O	144,231.94	140	1,030.23	2.89	.01
O C	65,609.70	152	431.64	1.21	.05
T C O	1,894,494.91	5,320	356.11		

more units of verbal communication per minute than others. Therefore, it was necessary to standardize the category frequencies for each observation by a predictive formula.[1] This formula adjusted each frequency to the mean length of the 180 observations and to the mean rate of unit production.

The adjusted frequencies of thirty categories (the nine categories with the lowest frequencies were omitted) were analyzed using a program based on modification of Guttman's "image analysis."[2]

Those factors which accounted for at least 6 percent of the common variance for the analyses at each of the five observation periods are reported in Tables 14 through 18. An attempt was made to name the

---

[1] $$S_{ij} = \frac{R_{ij}}{\sum_j C_{ij}} \cdot \frac{\sum_j C_{ij}}{T_i} \cdot \frac{\sum_j \sum_i T_{ij}}{180}$$

Where S is the standardized frequency, T is footage of tape, and R is raw frequency for observation i on category j.

[2] C. W. Harris, "Some Rao-Guttman Relationships," Psychometrika, Vol. 27,3, Sept. 1962, pp. 247-263.

Table 13

MEAN ADJUSTED FREQUENCIES OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR FOR THIRTY-THREE TEACHERS BY APPROACH

		Approach			
Category		Concept-Centered	Case Study	Learner-Centered	Total
1a	Asks for Academic Information	49.31	31.93	41.93	41.06*
1by	Asks for Objective Information Within Personal Reference	3.69	3.42	5.49	4.20
1bl	Asks for Information About Pupil's Personal Experience	7.13	6.87	9.38	7.79
1c	Asks for Procedural Information	26.38	25.89	19.55	23.94
2	Seeks or Accepts Direction	9.93	16.24	13.93	13.36*
3a	Asks for Interpretation	9.55	8.58	8.26	8.79
3b	Asks for Personal Opinion About Subject Matter	14.29	9.73	14.31	12.78
3c	Asks for Personal Opinion Not Related to Subject Matter	1.07	.67	1.33	1.02
4a	Listens to Response to Teacher	94.53	84.73	90.15	89.80
4b	Listens to Pupil-Initiated Talk	47.46	63.49	54.24	55.06
5a	Gives Academic Information	72.09	65.53	61.76	66.46
5bl	Gives Information About Pupil's Personal Experience	5.33	4.73	6.87	5.64
5by	Gives Objective Information Within Personal Reference	5.35	5.93	6.67	5.98
5c	Gives Procedural Information	58.40	52.26	53.36	54.67
5d	Gives Information About Teacher's Personal Experience	2.56	2.44	3.56	2.86
6	Gives Suggestions	2.75	2.35	1.93	2.34
7a	Gives Administrative Directions	48.35	34.31	49.29	43.98
7d	Gives Disciplinary Directions	8.86	14.53	9.42	10.93
8b	Gives Personal Opinion About Subject Matter	30.49	24.33	20.69	25.17

Table 13 (Continued)

Category Description		Approach			
		Concept-Centered	Case Study	Learner-Centered	Total
8c	Gives Personal Opinion Not related to Subject Matter	2.60	1.80	1.91	2.10
9	Gives Analysis	9.13	6.87	5.13	7.04
10a	Expresses Approval	9.93	13.18	15.09	12.73
11	Inhibits Communication	2.16	4.76	3.80	3.58
12a	Expresses Disapproval	.66	.49	.26	.47
14a	Confirms or Denies Accuracy of Response	26.55	27.18	24.51	26.08
14b	Confirms Accuracy of Response and Ecnourages Additional Comment	44.93	31.67	38.53	38.38
14c	Perfunctory Remarks	1.55	1.82	.98	1.45
RO	Repeats Opinion	1.62	.38	.86	.95
RA	Repeats Analysis	1.24	1.40	.86	1.16
RF	Repeats Facts	19.91	14.53	22.98	19.14*

*Differences significant at the .05 level

factors in such a way as to maximize for the reader an understanding of the extent to which certain common factors were extracted at each of the observation periods. Thus the naming of factors included not only an investigation of the specific content of the factor at each observation period but also some perusal of each factor and its relationship to similar factors in other analyses. There seemed to be some consistency of factors over the five rounds. The Analysis Orientation Factor persisted through four observations. The Structure and Factual Orientations started after the first observation but were both present previous to and in the fifth observation. The most persistent factor was the Personal Orientation which was present in some form at every observation period. At the third observation period

Table 14

MEAN ADJUSTED FREQUENCIES OF THIRTY CATEGORIES
OF COMMUNICATION BEHAVIOR FOR THIRTY-THREE TEACHERS
BY OBSERVATION PERIOD

Category Description		Observation Period					
		Senior Year		First Year Teaching			Total
		a	b	a	b	c	
1a	Asks for Academic Information	58.36	42.15	36.55	36.49	31.73	41.06**
1by	Asks for Objective Information Within Personal Reference	3.61	3.76	7.06	3.27	3.30	4.20
1bz	Asks for Information About Pupil's Personal Experience	10.36	9.42	8.09	5.79	5.30	7.79
1c	Asks for Procedural Information	22.33	24.91	22.06	23.70	26.70	23.94
2	Seeks or Accepts Direction	9.64	13.12	14.49	12.27	17.30	13.36
3a	Asks for Interpretation	7.67	12.30	8.42	6.88	8.70	8.79
3b	Asks for Personal Opinion about Subject Matter	11.91	14.55	16.09	7.58	13.76	12.78
3c	Asks for Personal Opinion Not Related to Subject Matter	2.06	.06	.36	1.88	.76	1.02
4a	Listens to Response to Teacher	104.15	93.39	82.24	82.73	86.49	89.80
4b	Listens to Pupil Initiated Talk	30.94	56.85	53.97	63.55	70.00	55.06**
5a	Gives Academic Information About Pupil's Personal Experience	69.42	78.70	54.97	78.00	51.21	66.46
5bl	Gives Information	5.21	6.70	8.33	4.12	3.85	5.64
5by	Gives Objective Information Within Personal Reference	5.24	5.82	8.15	3.42	7.27	5.98
5c	Gives Procedural Information	49.12	56.33	51.18	59.88	56.85	54.67

Table 14 (Continued)

Category Description		Observation Period					
		Senior Year		First Year Teaching			Total
		a	b	a	b	c	
5d	Gives Information About Teacher's Personal Experience	2.67	2.88	3.15	2.79	2.79	2.86
6	Gives Suggestions	1.82	2.58	.82	2.64	3.85	2.34
7a	Gives Administrative Directions	44.49	44.24	43.94	43.76	43.49	43.98
7d	Gives Disciplinary Directions	6.79	8.73	10.55	13.39	15.21	10.93
8b	Gives Personal Opinion About Subject Matter	22.39	26.09	24.97	22.88	29.52	25.17
8c	Gives Personal Opinion Not Related to Subject Matter	2.67	2.03	1.52	2.49	1.82	2.10
9	Gives Analysis	7.12	9.88	7.09	5.15	5.97	7.04
10a	Expresses Approval	14.06	10.70	13.00	13.39	12.52	12.73
11	Inhibits Communication	1.58	5.88	4.70	2.46	3.27	3.58
12a	Expresses Disapproval	.39	.18	.79	.39	.58	.47
14a	Confirms or Denies Accuracy of Response	24.88	26.42	26.33	25.06	27.70	26.08
14b	Confirms Accuracy of Response and Encourages Additional Comment	23.67	39.61	34.49	44.39	49.73	38.38*
14c	Perfunctory Remarks	2.21	2.09	1.15	.79	1.00	1.45
RO	Repeats Opinion	1.67	.49	.39	1.03	1.18	.95
RA	Repeats Analysis	1.15	2.03	.88	1.06	.70	1.16
RF	Repeats Facts	28.82	21.70	15.36	15.15	14.67	19.14**

*Differences significant at the .05 level
**Differences significant at the .01 level

two factors appeared which seemed to be Personal Orientation factors and which we have distinguished from each other by the terms "general information" and "objective information." In the analysis made of all observations combined (Table 20) the three factors, Personal, Structure, and Factual, were present. A fourth factor, not found in any of the five separate observations, was called, for lack of a better description, a Boundary Orientation.

The Personal Orientation, as represented by the combined analysis, seems to represent a kind of communication which emphasizes both the pupils' and the teacher's personal experience in relating objective information. The Structure Orientation Factor represents communication that directs and organizes the class. Factual Orientation apparently refers to communication that emphasizes a lecture-recitation classroom procedure. The Boundary Orientation seems more difficult to interpret, but apparently refers to communication that controls and disciplines.

The summary of these analyses presented in Table 21 reveals a substantial difference between the factors extracted from the senior student teaching communication samples and those extracted from the first year of teaching. Apparently, communication which represented an expression of analysis or opinion was more in evidence prior to full-time teaching, whereas communication which was oriented toward factual and structural aspects was more a part of first year teachers' communication. It was the Personal Orientation factor which was consistent throughout the five observations of the communication used by the subjects.

Variability by Approach

Presented earlier in Table 13 were the mean adjusted frequencies of communication categories for thirty-three teachers by approach. Of the thirty categories reported, only three represented significant differences among the approaches. Both the concept-centered and the learner-centered approaches resulted in greater use of Asking for Academic Information than the case study approach. The concept-centered approach instructor Sought and Accepted Direction less than the case study or learner-centered instructor. The case study approach instructor Repeated Facts less often than the instructors of the other two approaches. These differences may be simply chance as they do not seem meaningful in terms of what might be hypothesized expectations. Furthermore, they are at the .05 level and represent three out of thirty comparisons.

Although the evidence is not entirely clear on this question, it seems reasonable to conclude that there is little variability in communication by approach.

Table 15

FACTORS EXTRACTED FROM THE IMAGE ANALYSIS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING OBSERVATION NUMBER ONE

Variables		Faster Loadings
Factor I	Analysis Orientation (11.7% of common variance)	
5by	Gives Objective Information Within Personal Reference	.52*
11	Inhibits Communication	.41*
3a	Asks for Interpretation	.27*
RA	Repeats Analysis	.24*
Factor II	Opinion Orientation (9.0% of common variance)	
3b	Asks for Personal Opinion About Subject Matter	.91*
8b	Gives Personal Opinion About Subject Matter	.60*
1c	Asks for Procedural Information	.60*
4a	Listens to Response to Teacher	.30*
4b	Listens to Pupil-Initiated Talk	.21*
Factor III	Personal Orientation (6.5% of common variance)	
1by	Asks for Objective Information Within Personal Reference	.71*
5a	Gives Academic Information	.62*
14a	Confirms or Denies Accuracy of Response	.48*
14c	Perfunctory Remarks	.33*
4b	Listens to Pupil-Initiated Talk	.32*
7d	Gives Disciplinary Directions	.30*
5by	Gives Objective Information Within Personal Reference	.29
11	Inhibits Communication	.26
RF	Repeats Fact	.22*

*Highest correlation of this variable with any factor.

Table 16

FACTORS EXTRACTED FROM THE IMAGE ANALYSIS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING OBSERVATION NUMBER TWO

Variables		Factor Loadings
Factor I	Analysis Orientation (10.1% of common variance)	
RA	Repeats Analysis	.89*
1b1	Asks for Information about Pupil's Personal Experience	.83*
3a	Asks for Interpretation	.64*
4a	Listens to Response to Teacher	.62*
1c	Asks for Procedural Information	.48*
5by	Gives Objective Information Within Personal Reference	.31*
3b	Asks for Personal Opinion About Subject Matter	.25*
RF	Repeast Fact	.24
7a	Gives Administrative Directions	.24
5d	Gives Information About Teacher's Personal Experience	.24*
Factor II	Structure Orientation (8.6% of common variance)	
2	Seeks or Accepts Direction	.44*
1c	Asks for Procedural Information	.39
7a	Gives Administrative Directions	.26*
4b	Listens to Pupil-Initiated Talk	.20*
Factor III	Opinion Orientation (7.5% of common variance)	
RF	Repeast Fact	.79*
3b	Asks for Personal Opinion About Subject Matter	.76*
8b	Gives Personal Opinion About Subject Matter	.55*
14b	Confirms Accuracy of Response and Encourages Additional Comment	.34*
4a	Listens to Response to Teacher	.34
2	Seeks or Accepts Direction	.32
Factor IV	Personal Orientation (5.9% of common variance)	
1b1	Asks for Information about Pupil's Personal Experience	.85*
5b1	Gives Information about Pupil's Personal Experience	.60*
10a	Express Approval	.37*
4a	Listens to Response to Teacher	.34
14a	Confirms or Denies Accuracy of Response	.31*

*Highest correlation of this variable with any factor.

Table 17

FACTORS EXTRACTED FROM THE IMAGE ANALYSIS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING OBSERVATION NUMBER THREE

Variables		Factor Loadings
Factor I	Personal Orientation (General information) (8.4% of common variance)	
14a	Confirms or Denies Accuracy of Response	.85*
5b1	Gives Information About Pupil's Personal Experience	.75*
5c	Gives Procedural Information	.61*
1a	Asks for Academic Information	.36
1b1	Asks for Information About Pupil's Personal Experience	.28*
4a	Listens in Response to Teacher	.25
14c	Perfunctory Remarks	.20
Factor II	Analysis Orientation (10.4% of common variance)	
RA	Repeats Analysis	.87*
3a	Asks for Interpretation	.87*
12a	Expresses Disapproval	.72*
14c	Perfunctory Remarks	.69*
4a	Listens in Response to Teacher	.35*
RO	Repeats Opinion	.29*
6	Gives Suggestions	.25*
Factor III	Personal Orientation (Objective information) (10.2% of common variance)	
1by	Asks for Objective Information Within Personal Reference	.94*
5by	Gives Objective Information Within Personal Reference	.93*
11	Inhibits Communication	.61*
7d	Gives Disciplinary Directions	.60*
5d	Gives Information About Teacher's Personal Experience	.50
Factor IV	Opinion Orientation (8.3% of common variance)	
9	Gives Analysis	.86*
8b	Gives Personal Opinion About Subject Matter	.82*
5d	Gives Information About Teacher's Personal Experience	.67*
4b	Listens to Pupil-Initiated Talk	.41*
3c	Asks for Personal Opinion Not Related to Subject Matter	.26*
RO	Repeats Opinion	.24

Table 17 (Continued)

Variables		Factor Loadings
Factor V	Factual Orientation (8.1% of common variance)	
1a	Asks for Academic Information	.72*
RO	Repeats Opinion	.64*
4a	Listens in Response to Teacher	.32
RF	Repeats Fact	.26*

*Highest correlation of this variable with any factor.

Table 18

FACTORS EXTRACTED FROM THE IMAGE ANALYSIS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING OBSERVATION NUMBER FOUR

Variables		Factor Loadings
Factor I	Personal Orientation (8.0% of common variance)	
1b1	Asks for Information About Pupil's Personal Experience	.88*
5b1	Gives Information About Pupil's Personal Experience	.83*
5d	Gives Information About Teacher's Personal Experience	.59*
14a	Confirms or Denies Accuracy of Response	.36*
Factor II	Structure Orientation (4.8% of common variance)	
10a	Expresses Approval	.75*
7a	Gives Administrative Directions	.71*
5c	Gives Procedural Information	.34*
1c	Asks for Procedural Information	.20
Factor III	Opinion Orientation (7.8% of common variance)	
3c	Asks for Personal Opinion Not Related to Subject Matter	.96*
RO	Repeats Opinion	.95*
12a	Expresses Disapproval	.23*
10a	Expresses Approval	.23
8c	Gives Personal Opinion Not Related to Subject Matter	.22*

*Highest correlation of this variable with any factor.

Table 19

FACTORS EXTRACTED FROM THE IMAGE ANALYSIS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING OBSERVATION NUMBER FIVE

Variables		Factor Loadings
Factor I	(Not Named) (34.6% of common variance)	
9	Gives Analysis	.98*
5by	Gives Objective Information Within Personal Reference	.96*
4b	Listens to Pupil-Initiated Talk	.96*
3a	Asks for Interpretation	.95*
2	Seeks or Accepts Direction	.93*
3b	Asks for Personal Opinion About	.87*
5a	Gives Academic Information	.87*
8b	Gives Personal Opinion About Subject Matter	.86*
8c	Gives Personal Opinion Not Related to Subject Matter	.85*
RA	Repeats Analysis	.80*
4a	Listens to Response to Teacher	.80*
7d	Gives Disciplinary Directions	.79*
1c	Asks for Procedural Information	.59
5c	Gives Procedural Information	.51
Factor II	Structure Orientation (11.4% of common variance)	
5d	Gives Information About Teacher's Personal Experience	.79*
14b	Confirms Accuracy of Response and Encourages Additional Comment	.71*
5c	Gives Procedural Information	.68*
6	Gives Suggestions	.64*
1c	Asks for Procedural Information	.62*
7a	Gives Administrative Directions	.54*
10a	Expresses Approval	.44*
3c	Asks for Personal Opinion Not Related to Subject Matter	.34*
Factor III	(Not Named) (7.8% of common variance)	
RO	Repeats Opinion	.85*
1by	Asks for Objective Information Within Personal Reference	.80*
11	Inhibits Communication	.73*
14c	Perfunctory Remarks	.28*
7d	Gives Disciplinary Directions	.25
RF	Repeats Facts	.25

Table 19 (Continued)

Variables		Factor Loadings
Factor IV	Factual Orientation (6.9% of common variance)	
1a	Asks for Academic Information	.88*
RF	Repeats Facts	.81*
4a	Listens to Response to Teacher	.42
14a	Confirms or Denies Accuracy of Response	.35
Factor V	Personal Orientation (6.9% of common variance)	
5b1	Gives Information About Pupil's Personal Experience	
1b1	Asks for Information About Pupil's Personal Experience	.75*
6	Gives Suggestions	.45
14a	Confirms or Denies Accuracy of Response	.44

*Highest correlation of this variable with any factor.

Table 20

FACTORS EXTRACTED FROM THE INTERCORRELATIONS OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR AS USED BY THIRTY-SIX TEACHERS DURING FIVE COMBINED OBSERVATIONS

Variables		Factor Loadings
Factor I	Structure Orientation (15.1% of common variance)	
F	Fragmentary Comment	.65*
8b	Gives Personal Opinion About Subject Matter	.64*
4b	Listens to Pupil-Initiated Talk	.62*
1c	Asks for Procedural Information	.55*
14b	Confirms Accuracy of Response and Encourages Additional Comment	.54*
2	Seeks or Accepts Direction	.35

Table 20 (Continued)

Variables		Factor Loadings
Factor II	Factual Orientation (14.8% of common variance)	
4a	Listens to Response to Teacher	.75*
1a	Asks for Academic Information	.67*
N	Calls on Pupil After Question	.67*
RF	Repeats Facts Given by Pupil	.63*
14a	Confirms or Denies Accuracy of Response	.38*
14c	Perfunctory Remarks	.33*
Factor III	Personal Orientation (8.0% of common variance)	
1by	Asks for Objective Information Within Personal Reference	.71*
RE	Repeats Pupil's Description of His Experience	.55*
5by	Gives Objective Information Within Personal Reference	.47*
5d	Gives Information About Teacher's Personal Experience	.28
Factor IV	Boundary Orientation (6.7% of common variance)	
7d	Gives Disciplinary Directions	.60*
11	Inhibits Communication	.51*
4b	Listens to Pupil-Initiated Talk	.38

*Highest correlation of this variable with any factor.

Table 21

SUMMARY OF FACTORS EXTRACTED FROM THE IMAGE ANALYSES
OF THIRTY CATEGORIES OF COMMUNICATION BEHAVIOR
AS USED BY THIRTY-SIX TEACHERS
OVER FIVE OBSERVATION PERIODS

Orientation Factors	Senior		First Year Teaching			Observations 3, 4, and 5 combined
	1	2	3	4	5	
Analysis	X	X	X			
Opinion	X	X	X	X		
Personal	X	X	X	X	X	X
Structure		X		X	X	X
Factual			X		X	X
Boundary						X

Relationship of Teacher Communication to Pupil Perception

The purpose of this part of the study was to determine the relationship between the communication behavior of thirty-three teachers and perceptions of the pupils in their respective classes. The specific problems investigated were:

1. Was there a relationship between teacher communication and pupils' self-self ideal discrepancy?

2. Was there a relationship between teacher communication and pupils' self concept as socially acceptable, aggressive, or withdrawn?

3. Was there a relationship between teacher communication and peer perception of pupils as socially acceptable, aggressive, or withdrawn?

4. Was there a relationship between teacher communication and teacher-teacher ideal communication discrepancy as perceived by pupils?

5. Was there a relationship between teacher communication and school attitude of pupils?

(See Chapter 2 for a description of pupil perception measures and data collection methods.)

To determine the relationship between the four communication factors and the nine pupil perception variables, the teachers were grouped according to the degree of Structural Orientation, Factual Orientation, Personal Orientation, and Boundary Orientation of their communication behavior. On the basis of their factor scores, the independent variables, all of the teachers were assigned either to a high group, a middle group, or a low group for each of the factors. The pupil perception variable class mean scores of each group were then compared as dependent variables. A series of analysis of variance problems were used to determine significance of differences.

The communication factor grouped class mean scores for each of the pupil perception variables are presented in Table 22. In Table 23 the analyses of variance are reported.

An examination of Table 22 shows that teacher communication which was structurally oriented, factually oriented, or boundary oriented was not related to the various pupil perception variables. Differences among the three groups of class means for these three factors on each of the nine variables were not significant. Significant differences did appear, however, for several pupil perception variables grouped on the Personal Orientation Factor. It seems that teachers who displayed a high degree of personal orientation had pupils who perceived themselves

Table 22

MEAN CLASS PUPIL PERCEPTION SCORES FOR THIRTY-THREE TEACHERS GROUPED BY COMMUNICATION FACTOR SCORES COMBINED FOR ROUNDS 1, 2, AND 3 AND USED AS INDEPENDENT VARIABLES

Pupil perception variable	Groups			Total
	High	Middle	Low	
FACTOR I STRUCTURAL ORIENTATION				
Self satisfaction	5.40	5.18	5.08	5.22
Self concept				
Socially acceptable	9.46	9.20	9.54	9.40
Aggressive	4.73	4.46	4.43	4.54
Withdrawn	4.55	4.51	4.61	4.56
Peer perception				
Socially acceptable	16.38	13.33	14.27	14.66
Aggressive	8.27	7.78	7.27	7.77
Withdrawn	4.82	4.98	5.74	5.18
Teacher satisfaction	7.66	7.22	7.50	7.46
School attitude	42.40	45.12	46.20	44.57
FACTOR II FACTUAL ORIENTATION				
Self satisfaction	5.32	5.23	5.11	5.22
Self concept				
Socially acceptable	9.42	9.37	9.41	9.40
Aggressive	4.58	4.48	4.56	4.54
Withdrawn	4.80	4.54	4.33	4.56
Peer perception				
Socially acceptable	15.30	14.04	14.64	14.66
Aggressive	7.14	7.37	8.82	7.77
Withdrawn	5.03	5.24	5.27	5.18
Teacher satisfaction	7.84	7.45	7.10	7.46
School attitude	45.24	42.68	45.80	44.57

Table 22 (Continued)

Pupil perception variable	Groups			Total
	High	Middle	Low	
FACTOR III PERSONAL ORIENTATION				
Self satisfaction	4.50	5.29	5.88	5.22**
Self concept				
Socially acceptable	9.72	9.47	9.01	9.40*
Aggressive	4.21	4.61	4.81	4.54*
Withdrawn	4.16	4.37	5.14	4.56**
Peer perception				
Socially acceptable	14.22	13.93	15.83	14.66
Aggressive	8.46	8.03	6.83	7.77
Withdrawn	5.52	4.35	5.67	5.18
Teacher satisfaction	7.53	7.45	7.40	7.46
School attitude	51.33	45.67	36.72	44.57**
FACTOR IV BOUNDARY ORIENTATION				
Self satisfaction	5.06	5.50	5.10	5.22
Self concept				
Socially acceptable	9.60	9.17	9.44	9.40
Aggressive	4.44	4.70	4.48	4.54
Withdrawn	4.60	4.62	4.45	4.56
Peer perception				
Socially acceptable	15.01	14.84	14.13	14.66
Aggressive	7.74	7.96	7.62	7.77
Withdrawn	6.00	4.86	4.69	5.18
Teacher satisfaction	7.63	6.96	7.80	7.46
School attitude	46.64	39.78	47.30	44.57

*Differences significant at the .05 level.
**Differences significant at the .01 level.

Table 23

ANALYSIS OF VARIANCE FOR PUPIL PERCEPTION OF SELF, PEERS, AND SCHOOL WITH TEACHER COMMUNICATION FACTOR SCORES COMBINED FOR ROUNDS 1, 2, AND 3, AND USED AS THE INDEPENDENT VARIABLES

Source of Variation	Within			Between			F	P
	Sum of Squares	df	Mean Square	Sum of Squares	df	Mean Square		
FACTOR I STRUCTURAL ORIENTATION								
Self satisfaction	24.74	27	.92	.54	2	.27	<1	
Self concept								
Socially acceptable	10.74	27	.40	.61	2	.30	<1	
Aggressive	7.68	27	.28	.53	2	.36	<1	
Withdrawn	10.50	27	.39	.05	2	.09	<1	
Peer perception								
Socially acceptable	303.97	27	11.26	48.84	2	24.42	2.169	
Aggressive	116.41	27	4.31	4.99	2	2.50	<1	
Withdrawn	103.60	27	3.84	4.85	2	2.43	<1	
Teacher satisfaction	95.55	27	3.54	.97	2	.49	<1	
School attitudes	3589.67	27	132.95	76.74	2	38.37	<1	
FACTOR II FACTUAL ORIENTATION								
Self satisfaction	25.07	27	.93	.22	2	.11	<1	
Self concept								
Socially acceptable	11.33	27	.42	.01	2	.01	<1	
Aggressive	8.16	27	.30	.05	2	.02	<1	
Withdrawn	9.41	27	.35	1.14	2	.57	1.636	
Peer perception								
Socially acceptable	344.76	27	12.77	8.04	2	4.02	<1	
Aggressive	104.84	27	3.88	16.56	2	8.28	2.132	
Withdrawn	108.12	27	4.00	.33	2	.17	<1	
Teacher satisfaction	93.78	27	3.47	2.75	2	1.37	<1	
School attitudes	3610.98	27	133.74	55.43	2	27.71	<1	

Table 23 (Continued)

Source of Variation	Within Sum of Squares	df	Mean Square	Between Sum of Squares	df	Mean Square	F	P
FACTOR III PERSONAL ORIENTATION								
Self satisfaction	15.72	27	.58	9.56	2	4.78	8.213	.01
Self concept								
Socially acceptable	8.70	27	.32	2.64	2	1.32	4.106	.05
Aggressive	6.33	27	.23	1.88	2	.94	4.013	.05
Withdrawn	5.26	27	.19	5.29	2	2.65	13.564	.01
Peer perception								
Socially acceptable	331.90	27	12.29	20.91	2	10.45	<1	
Aggressive	106.98	27	3.96	14.41	2	7.21	1.819	
Withdrawn	98.08	27	3.63	10.38	2	5.19	1.428	
Teacher satisfaction	96.44	27	3.57	.09	2	.04	<1	
School attitude	2580.61	27	95.58	1085.79	2	542.90	5.680	.01
FACTOR IV BOUNDARY ORIENTATION								
Self satisfaction	24.14	27	.89	1.14	2	.57	<1	
Self concept								
Socially acceptable	10.41	27	.39	.94	2	.47	1.221	
Aggressive	7.31	27	.29	.40	2	.20	<1	
Withdrawn	10.38	27	.38	.17	2	.09	<1	
Peer perception								
Socially acceptable	348.38	27	12.90	4.43	2	2.22	<1	
Aggressive	120.78	27	4.47	.62	2	.31	<1	
Withdrawn	98.31	27	3.64	10.14	2	5.07	1.393	
Teacher satisfaction	92.59	27	3.43	3.94	2	1.97	<1	
School attitude	3319.42	27	122.94	346.98	2	173.49	1.411	

as being more satisfied (less self-self ideal discrepant), more socially acceptable, less aggressive, and less withdrawn than did teachers who had middle or low scores on personal orientation. Also, high personal orientation teachers had pupils with higher school attitudes than did teachers who were middle or low personally oriented.

It must be concluded that teacher communication when measured with the extended category system and viewed in terms of four factors derived from three combined observations was related to pupil perception in several interesting ways, but not related in many other respects. Of the four factors, it was the Personal Orientation Factor which was related to and many have had an effect on pupils' self perceptions and school attitudes. Teachers who made comparatively greater use of children's experience in classroom communication had children who viewed themselves and their school more favorably. No other factor, apparently, was related to these variables or to the peer perception and teacher satisfaction variables.

Summary

The variability among categories was reported to be rather great with relatively large frequencies going to academic and management categories and relatively small frequencies going to categories related to the personal element in communication. There was some variability over time as reported by the series of Image Analyses. The Personal Orientation Factor was the only one which was consistently found throughout the five observations. The Analysis and Opinion factors were prevalent during the senior year analyses, whereas the Structural and Factual Factors were relatively persistent throughout the first year of full-time teaching. There was little evidence that communication varied according to the approaches of instruction which represented the major experimental variable of this study. There was evidence that teacher communication was related to pupils' perceptions. Pupils in classes where teachers used personally oriented communication had more favorable self concepts and favorable attitudes toward school than did pupils in classes where teachers used less personally oriented communication.

CHAPTER VII

A METHOD OF ANALYZING PUPIL-TEACHER INTERACTION

by

Patricia W. Cautley

Late in the fourth year of the Project another method of analyzing verbal communication in the classroom was developed, doubtless stimulated in part by the development of the "communication unit" as the unit for analysis, but also receiving its impetus from the gradually developing belief that one of the most revealing aspects of classroom teaching is the specific teacher-pupil interaction.[1] Resulting from this interest, the Pupil-Teacher Interaction Method was developed to provide a means of analyzing only a specific part of the communication behavior in the classroom, namely the pupil's verbalizations and the teacher's response to them. The rest of the verbal behavior in the classroom is observed but not categorized. It is essential for the categorizer to attend to what precedes the pupil's verbalization--to note, for example, whether it has been stimulated by a direct question or request for information from the teacher, or by a comment of another pupil, or, as in some cases, by no identifiable stimulus--as this affects the particular categorization of the pupil's verbalization.

Since no system for analyzing classroom behavior--at the present state of our developing knowledge in this field--can be a complete description of everything that goes on in a classroom, the choice of method for any partial system is determined largely by ideas held by the researcher as to what it may be important to observe. The present system is no exception. It seems desirable to state these ideas or assumptions as explicitly as possible in order to clarify the underlying purpose of this method. These assumptions are the following:

1. That a pupil's participation in the classroom interaction is more desirable than non-participation.[2]

---

[1] I am greatly indebted to Terry CoBabe for his encouragement and help in developing this conceptual scheme, and to him and his wife Susan CoBabe for the analysis of the classroom tape recordings.

[2] It would be most useful to record individual students' participation, and this could conceivably be done in classrooms once the observer had become familiar with the class and the situation. However, since the present analysis has been based on tape recordings, it has not been possible to consider this refinement.

2. That the nature of the pupil's participation is important; that it is more desirable from both a mental health point of view and from the point of view of current learning theory, for example, to have pupils express in their own words and their own terms the material to be learned rather than give back repetitions of material found in the texts or given to them by the teacher.[3] In essence, this method enables us to analyze the "degree of relative independence" which the pupils reveal in their verbalizing, ranging from absence of such independence, when the pupil gives a factual answer to a question requesting a fact, to the other extreme of a high degree of independence, when the pupil volunteers some information which has not been requested or invited, such as a description of a personal experience. We would hypothesize that some "independence" in verbalizing and some self-expression or "putting oneself into" verbalizations is essential for effective learning.[4]

3. That the pupil's spontaneous expression of ideas or questions is desirable as it indicates (a) that the pupil feels sufficiently comfortable psychologically in the classroom to contribute something which is not asked for, and (b) that the pupil is thinking independently about the topic under discussion.

4. That the teacher's response to the pupil's verbalization is an essential determinant of the general classroom climate and serves to encourage or discourage certain kinds of pupil participation. For example, if the teacher welcomes comments which the pupil makes on his own initiative, uses them, praises them, or in some other way shows that she values them, this sort of behavior is reinforced and is more likely to recur. If she makes no response to them, she is inhibiting them, and they are less likely to recur. This statement may be made more precise in terms of the "behavior therapies," a developing field of reserach in which the primary concern has been to eliminate or change behavior which is seen as undesirable. One of the main conclusions to be drawn from these studies is that a response (or absence of response) to a subject does make a difference.[5] If the behavior

---

[3] It is recognized that some modification of this statement might be required if the teaching of a foreign language is specifically considered.

[4] This has been stated in somewhat different terms by Jerome Bruner (On Knowing: Essays for the Left Hand / Cambridge, Mass.: Harvard University Press, 1962 /) in his discussion of the rewarding nature of cognitive or intellectual mastery by the child, and also by R. W. White (Motivation Reconsidered: The Concept of Competence, "Psychological Review, 1959, 66, pp. 297-333) in his elaboration of the "need for competence" as a basic need of the developing individual.

[5] J. Wolpe, A. Salter, and L. J. Regna, The Conditioning Therapies (New York: Holt, Rinehart and Winston, 1964).

is desired, ignoring it is not a response which encouraged its repetition. On the other hand, if the behavior is not desired, expressing disapproval of it is not likely to be particularly effective in discouraging it. Consequently, we were especially interested in differentiating "devaluing" behavior (the clear expression of negative feeling or dislike toward the pupil or his verbalization) from other teacher responses, and also in distinquishing "valuing" behavior (an expression of positive feeling or liking toward the pupil or his verbalization) from other teacher responses, especially from the confirmation or denial of accuracy of the pupil's verbalization (distinguished from the devaluing and valuing behaviors by the absence of either kind of affect.)

In our early observations we were impressed with the evidence that some teachers were at a loss as to how to respond to certain kinds of behavior, sometimes failing to respond in any way, and at other times making ambiguous or contradictory kinds of responses, thus giving the pupils confusing cues as to whether their behavior was regarded as desirable. It appeared to us that the teachers were losing an important opportunity to encourage certain kinds of behavior. Hence this particular method of categorizing pupil verbalizations and the teacher's responses to them was developed in order to provide an objective method of looking at just this part of the total classroom interaction. It is hoped that this method of analysis can be used to sharpen developing teachers' observations of their own behavior in the classroom.

Some specific hypotheses in the form of predictions were formulated prior to the data analysis. They are stated explicitly on pp. 241-242 following the detailed description of method.

Description of Methods

The specific techniques to be described here were developed within the framework of the Wisconsin Teacher Education Research Project.[6]

First, a set of categories was developed to describe the kinds of pupil verbalizations occurring in a classroom setting. Since one of our primary interests was in the "degree of relative independence" indicated in a pupil's verbalization, the set of categories reflect this specifically, and do not, for example, reflect interest in the content of the pupil verbalization.

---

[6] The similarity of some aspects of this method to that of Flanders (N. A. Flanders, "Teacher Influence, Pupil Attitudes, and Achievement," Cooperative Research Reports, Monograph 12, United States Department of Health, Education and Welfare, Washington: Government Printing Office, 1965) is apparent, particularly in its final form, since our attempt to use a wider variety of teacher response categories did not succeed. This technique utilizes a larger number of pupil verbalization categories than Flanders"s, but differs mainly from his approach in focusing on the pupil-teacher interaction, omitting all other teacher verbalizations.

In the following list the categories are briefly defined. More detailed criteria which were used in distinguishing one category from another are listed in Appendix F. A tabulation form was used so that pupil verbalizations could be indicated on successive lines and the teacher response to each indicated in a separate column on the same line. Letters were used to represent each pupil verbalization and each teacher response, with some subscripts used to indicate varieties of a general category.

Categories of Pupil Verbalizations

	"Degree of independence" reflected in verbalization:
Answers to teacher's questions:	
1. Factual answer to a question, either objectively or academically verifiable (contains no evidence that the pupil has added anything to the statement of fact) (A)	None
2. Factual answer to a question, given by pupil before anyone is called on by teacher, described as spontaneous answers (SA)*	None
3. Reading aloud at request of teacher (R)	None
4. Explanation of factual material in own words, or elaboration of academic material (EA)	Some
5. Expression of personal preference, or describing a personal experience (EP)	Some
6. Questions invited by teacher, or other responses invited within a general structure (T)	Considerable

*These are identical to the Answers (A) described in item 1 except that the teacher has not called on a pupil.

	"Degree of independence" reflected in verbalization:
Responses invited by teachers:	
7. Giving reports (the content of which may have been specified in general by the teacher, but which represent the pupil's choice as to what he will include and report) (D)	Considerable
Spontaneous verbalizations (not invited or requested by teacher):	
8. Spontaneous questions (Q)	Complete
9. Spontaneous comments (S)	Complete

Categories of Teacher Response to Pupil Verbalization

1. No response (ignores, gives no verbal recognition that pupil has said anything) (N)
2. Perfunctory response ("all right" and similar expressions) (P)
3. Verbatim repetition of part or all of what pupil has said (R)
4. Confirming or denying accuracy of content of pupil verbalization, with no feeling tone indicated (C or D)
5. Giving direct answer to pupil or elaborated answer (explanation) (A)
6. Deferring to a later time what the pupil has said (We will talk about that tomorrow," etc.) (L)
7. Giving directions to pupil (Dir)
8. Asking an elaborative question, that is, one which requests an elaboration or further explanation of something mentioned by a pupil, or one which continues the ongoing discussion of the topic (Eq)

   It is at times impossible to judge whether the question the teacher asks is actually based on something the pupil has said if it continues the discussion This category was used if the teacher's question was directly related to material mentioned by the pupil; if unrelated, this category was not used. (A question asking a pupil simply to repeat what he has said would be categorized as Miscellaneous.)

9. Making an elaborative comment, that is, commenting on information contained in the pupil's verbalization (Er)
   This is primarily a "carrying on the discussion" category and includes giving further information or analysis of the content of the pupil's verbalization. (Here again it may be difficult to be sure whether the teacher is responding to something the pupil has said. If the comment is related, it is categorized here; if unrelated, it is not.)

10. Indicating a valuing response, or expression of positive affect (Ev)
    This includes all statements made with intent to praise, to express liking, or to express encouragement, as indicated by tone of voice or words used. (Note that simple confirmation of the accuracy of the pupil's verbalization would not be placed in this category but would go in category 4.) Originally we separated "mild" valuing comment from "enthusiastic" valuing comment, but found that this distinction was not reliably made.

11. Indicating a devaluing response, or expression of negative affect (Ed)
    Includes all statements made to indicate negativism towards pupil, rejection of his contribution as inappropriate, or expression of disapproval or dislike. (Note that simple denial of the accuracy of what the pupil has said would not be categorized here unless accompanied by some expression of negative affect.

12. Miscellaneous. This category was used rather infrequently but included asking a pupil to repeat what he had said and occasional other comments. (Misc.)

Source of Data

The thirty-five teacher subjects whose tape recordings were analyzed by this method are the same subjects who have been described in earlier chapters--namely, three groups of student teachers who had been taught by three different instructors in their basic educational psychology course during their junior year and who were subsequently studied during their senior year and their first year of full-time teaching. Five tape recordings were collected for each subject, one early and one late in the period of practice teaching during the senior year, and three during each subject's first year of full-time professional teaching, in the fall, winter, and late in the spring. As explained earlier, most of the recordings were made while the teacher subjects taught science or social studies.

Agreement in Categorization

The agreement among categorizers' judgments may be expressed as (1) the degree of agreement among categorizers or (2) the degree of agreement in one categorizer's judgments at two different times. Both measures were obtained for this study. Categorization of the tapes was not begun until two categorizers showed at least 80 per cent agreement as to (1) number of responses placed in each category and (2) pairing of a particular teacher response with a particular pupil verbalization.

Data on agreement were collected periodically throughout the analysis of the tapes. The original category system was somewhat more detailed than the one outlined in the preceding section and the decision to combine some categories was made on the basis of the data on agreement. For example, originally six different kinds of valuing statements were categorized separately, but when it became apparent that they had not been differentiated reliably, they were combined into one category. In general, both inter-categorizer and intra-categorizer agreement in the number of responses placed in a given category was 80 per cent or higher.

Applications of this Method of Analysis

Since the lengths of the recordings varied considerably, it was essential that the tapes be made comparable with each other in some way. The length of tape from beginning to end of each observation was carefully recorded, a mean length computed, and all data were adjusted to this mean length, or time. Thus, classrooms may be compared on the basis of (1) the number and type of pupil verbalizations per standard period of time,[7] (2) the number and type of teacher responses per standard period of time, and (3) the number and type of teacher responses to each kind of pupil verbalization.[8] To facilitate this last kind of comparison, matrix tabulations are a satisfactory way of summarizing the data, preferably listing the pupils' verbalizations in order according to the pupil's "degree of independence", and listing the teacher responses in order from devaluing to valuing.

---

[7] A more complete record of the pupil verbalizations would be obtained by including a measure of the length of time each pupil spends in talking. We found it was possible to indicate this roughly in terms of 5-second intervals on the record sheets and, with practice, to indicate it more precisely with the use of timers. However, it was apparent that the amount of time required to train other categorizers made this method prohibitive at the time. The small amount of data collected by this procedure, however, suggested that this type of information may be an important dimension. For example, in three classrooms the longest pupil verbalization by far was a spontaneous comment, and in all three instances the teacher's response was to ignore it completely ("No Response" in our category system).

[8] In a later section the problem of comparing different classrooms will be referred to. Such a comparison may be based upon the number of verbalizations in a standard period of time, or upon the proportion of total verbalizations contained in certain categories. The choice of method is determined by the specific questions one wishes to answer about the classroom interaction.

Rapid examination of such a matrix reveals considerable information about a given classroom (see Figure 6). The first matrix (A) indicates very little spontaneous verbalization from the pupils, and considerable interest on the part of the teacher both in the accuracy of the pupils' answers and comments and in continuing the discussion around the content mentioned by the pupils.

Classroom B, in contrast, reveals a high proportion of spontaneous comments, but since the teacher's response to them is to devalue or merely ignore them, one could surmise that this is a relatively uncontrolled group and that the teacher is displeased with the lack of order.

In Classroom C there is an even higher proportion of spontaneous comment from the pupils, but the teacher responds to them in terms of confirming or denying accuracy, asking questions about the comment, or carrying on the discussion further. There is very little devaluing, and the teacher's main response to the verbalizations is in carrying on the discussion.

Such a method of analyzing classroom interaction and representing it in a matrix form would seem particularly appropriate for in-service training of teachers.

Findings

Predictions to be Tested

Before the data were analyzed, the following predictions were formulated:

1. As the teachers become more experienced, from the first observation to the fifth, there will be a decrease in the appearance of Answers as a pupil verbalization, and an increase in (a) pupil Explanations of factual material (EA), (b) spontaneous pupil verbalizations, including both Questions and Comments, and (c) teachers' responses which are Valuing.

2. Because of the greater emphasis on content *per se*, the pupil verbalizations in the classrooms taught by the teachers trained in Approach I (the concept-centered approach) will show significantly more Answers than the classrooms of the teachers trained by the other two approaches.

Categories of Teacher Responses*

Categories of Pupil Verbalization	De-value	Make no re-sponse	Give per-func-tory response	Confirm or deny accuracy	Give direc-tions	Ask elabor-ative ques-tions	Make elabor-ative comment	Value
Matrix A								
Factual Answers			//	𝍸 𝍸 𝍸 //		𝍸 𝍸 𝍸	𝍸 𝍸 ///	///
Explanations				𝍸 𝍸		𝍸 𝍸 ///	𝍸 𝍸 //	///
Spontaneous Comments		//	//	/			//	
Matrix B								
Factual Answers	//	/		𝍸 /		𝍸	//	/
Explanations		/	𝍸	𝍸		//	///	//
Spontaneous Questions	///				////			
Spontaneous Comments	𝍸 𝍸 ///	𝍸 𝍸 /	////	///		///	////	/
Matrix C								
Factual Answers			/				///	
Explanations		//	𝍸 /	𝍸		//	𝍸 //	
Spontaneous Comments		/	𝍸	𝍸 ////		𝍸 𝍸	𝍸 𝍸	//

*Only the categories which were used in these particular observations are shown here.

Figure 6. Matrix Tabulations from Three Different Classrooms

3. Because of the focus on learner-centered teaching in Approach III, the classrooms of the teachers from this approach, when compared with classrooms of teachers from the other approaches, will show significantly (a) more pupil verbalizations in the Spontaneous categories, (b) more teacher Valuing responses, and (c) a higher ratio of Valuing to Devaluing responses.

Trends in the Total Group of Subjects

Before attempting to test predictions of differences among the three groups of teacher subjects trained by different methods, we will first examine the date for the total group of subjects to see what regularity, if any, exists throughout the five observations.

An examination of the means and standard deviations of the pupil verbalization categories, and also of the teacher response categories reveals first of all that there is a very wide variability among the classrooms, but that in general there is a decrease in both variability and in mean number of verbalizations from the first observation to the fifth (see Tables 24 and 25). This suggests that as a teacher becomes more experienced, the classroom interaction slows down. This trend is confirmed by a decrease in the number of pupil verbalizations from the first observation to the fifth. The decreased variability in pupil verbalizations suggests also that classrooms tend to become somewhat more similar in regard to these dimensions. However, the categories of spontaneous pupil verbalizations are not accurately described by this general trend; in particular, both the mean and variability of spontaneous questions shows a considerable increase from the first to the fifth observation. More will be said about these categories later.

The teachers' responses do not show as consistent a trend as do the pupil verbalizations. However, if they are grouped in two broad categories titled "Non-constructive" and "Constructive" responses, certain trends may be seen. These designations are not intended as value judgments but as indicators of whether the teacher is responding in some way to the content of the pupil's verbalization. The affective responses (Devaluing and Valuing) are omitted as they represent a somewhat different dimension. Included in the "Non-constructive" group are No Response, Perfunctory Response, and Repetition of the Verbalization. Included in the "Constructive" group are the others: Confirming or Denying Accuracy, Giving a Direct Answer, Referring Topic to a Later Time, Asking an Elaborative Question, Making and Elaborative Comment, or Giving Directions.

Table 24

Means and Standard Deviations of the Eight Categories of Pupil Verbalizations at Five Different Observation Times

Observation	Pupil Verbalizations															
	Factual Answer		Reading Aloud		Explanation		Explanation, Personal		Asking Invited Questions or Giving Reports*		Spontaneous Questions		Spontaneous Comments		Spontaneous Answers	
	M	6	M	6	M	6	M	6	M	6	M	6	M	6	M	6
1	32.3	19.8	2.1	3.9	45.5	28.7	10.1	14.0	2.7	6.5	4.9	5.2	21.2	25.0	2.0	5.3
2	24.8	17.8	2.5	4.5	39.2	29.3	4.9	6.6	3.3	9.7	9.6	9.8	21.0	22.9	0.4	1.4
3	16.2	9.9	3.6	5.4	40.7	23.3	6.1	10.8	2.1	5.2	10.1	10.3	22.8	18.0	1.2	3.6
4	20.2	12.0	4.6	11.7	33.8	23.1	3.2	8.8	1.4	5.8	15.0	16.6	22.7	20.3	3.4	5.2
5	14.1	11.0	4.0	7.9	33.2	21.5	5.9	9.2	1.8	4.8	12.6	16.0	17.8	15.4	4.7	6.4

*These two categories were combined because each occurred relatively infrequently.

Table 25

Means and Standard Deviations of Eleven Categories of Teacher Responses to Pupil Verbalizations at Five Different Observation Times

	Teacher Responses																				
	Devalue		Make No Response		Give Perfunctory Response		Repeat		Refer to Later Time		Confirm or Deny Accuracy		Give Directions		Ask Elaborative Questions		Make Elaborative Comment		Answer		Value	
Observation	M	6	M	6	M	6	M	6	M	6	M	6	M	6	M	6	M	6	M	6	M	6
1	2.6	7.2	14.4	13.8	12.6	11.5	17.6	17.2	4.6	3.3	12.4	7.4	4.4	4.3	18.1	10.0	17.1	15.5	5.1	4.8	7.8	7.7
2	2.0	4.6	21.5	11.4	9.3	6.7	9.7	8.9	4.3	5.6	11.7	9.1	5.1	4.7	16.4	13.4	16.9	13.6	7.2	9.0	9.8	12.7
3	1.6	2.5	11.8	7.6	13.3	8.4	6.9	6.4	6.0	5.0	13.2	9.0	4.2	6.5	11.5	6.7	20.2	12.0	3.7	3.8	8.2	8.6
4	1.6	2.3	12.0	13.5	11.7	9.0	6.3	6.8	7.1	4.3	14.4	12.4	4.4	4.1	13.5	10.7	22.0	14.8	2.5	2.8	6.9	6.6
5	1.0	1.6	8.2	8.3	12.3	9.6	5.3	5.1	4.7	3.6	14.1	13.8	2.9	3.3	11.9	9.4	23.1	13.8	2.3	2.3	5.4	7.0

When the teachers' responses are grouped in this way, we find that the variability of each of the "Non-constructive" categories decreases from the first observation to the fifth, as does the mean for two out of the three categories, whereas the variability of the "Constructive" categories tends to remain the same or to increase, as does the mean (see Table 25). Although these differences, based on a relatively small group of subjects, are not of sufficient size to meet a test of statistical significance, the trend suggested by them lends some support to a generalization that as a teacher gains some experience, she responds to the content of more of the pupil verbalizations and expresses fewer responses of the vague indefinite nature which we describe as "Non-constructive."

It is important to keep in mind that although the teachers remain constant throughout all five observations, two different groups of pupils are involved for each teacher, one for the first two observations, and another for the last three observations. The relative stability of the data reinforces the assumption that the teacher is the dominant variable in the classroom and determines to a very great extent the kinds of interaction which occur.

The role of the teacher is clarified further by examining the relationship between her responses to certain kinds of pupil verbalizations (Table 26). For the sake of simplicity, pupil verbalizations shown in this table are only those which occur with relative frequency: Factual Answers, Explanations, Spontaneous Questions, and Spontaneous Comments. All responses of the teacher which show significant relationships with the pupil verbalization in one or more of the observations are shown. Some stable relationships show up consistently across observations. The most consistent teacher response to pupil Factual Answers is to Ask and Elaborative Question based on the content. Another fairly consistent response is the teacher's Repetition of the Factual Answer. Pupil Explanations are most frequently responded to by teacher Elaborations, that is, either by the teacher's Asking Elaborative Questions or Making Elaborative Comments. Pupil Spontaneous Questions are most frequently responded to by teacher Answers (as one might well expect). Such questions are also deferred to a Later Time and in observations three, four, and five elicit some Directions.[9]

---

[9] Although we are not justified from a statistical point of view in interpreting an occasional high coefficient of correlation, the high relationship between pupil spontaneous questions and teacher devaluing at the time of observation three is so out of line with the other correlations between these two variables as to demand attention. This observation occurred in the fall at the beginning of each teacher's full time position. It is quite possible that the occurrence of spontaneous questions from the pupils was either a reflection of the somewhat unruly classroom or was perceived this way by the teacher, who consequently responded by devaluing. Pupil's spontaneous comments on the other hand are consistently devalued or not responded to for the first three observations, but do not elicit a consistent type of teacher (cont.)

Table 26

CORRELATIONS BETWEEN CERTAIN PUPIL VERBALIZATIONS AND TEACHERS' RESPONSES TO THEM

Teacher Responses	Pupil Factual Answers at the Time of Observation				
	1	2	3	4	5
Devalue	.13	-.12	.38*	.02	.02
Make No Response	.27	.25	46**	.47**	.18
Repeat	.53**	.25	.54**	.28	.44**
Confirm or Deny Accuracy	.28	.26	.46**	.12	.33*
Ask Elaborative Question	.60**	.48**	.42*	.33*	.33*
Make Elaborative Comment	.48**	.41*	.06	-.04	.27
Value	-.02	.06	-.13	.18	.45**

Teacher Responses	Pupil Explanations at the Time of Observation				
	1	2	3	4	5
Devalue	-.13	-.17	-.39*	.41*	.21
Make No Response	-.05	.17	.25	.33*	.41*
Give Perfunctory Response	.17	.30	.48**	.61**	.60**
Confirm or Deny Accuracy	.32	.40*	.12	.01	-.20
Ask Elaborative Questions	.52**	.78**	.39*	.81**	.27
Make Elaborative Comments	.45**	.55**	.41*	.57**	.42**
Value	.47**	.35*	.38*	.32	.26

* Significant at the .05 level.
** Significant at the .01 level.

Table 26 (continued)

Teacher Responses	Pupil Spontaneous Questions at the Time of Observation				
	1	2	3	4	5
Devalue	-.03	.23	.70**	-.11	-.08
Make No Response	.10	.18	.23	-.03	-.06
Give Direct Answer	.23	.38*	.60**	.84**	.93**
Defer to Later Time	.06	.53**	.47**	.49**	.60**
Give Directions	-.09	.20	.30	.44**	.45**

Teacher Responses	Pupil Spontaneous Comments at the Time of Observation				
	1	2	3	4	5
Devalue	.78**	.64**	.57**	.28	.17
Make No Response	.75**	.67**	.53**	.80**	.26
Confirm or Deny Accuracy	.04	.06	.39*	.34*	.32*
Defer to Later Time	.26	.41*	.27	.18	.33*
Give Directions	.38*	.29	.58**	.32*	.50**
Ask Elaborative Question	.08	.12	.16	.45**	.03
Make Elaborative Comment	.34*	.28	.29	.33*	.13

The finding of relatively consistent relationships across observations stimulated us to question whether it is possible to make predictions based on classroom interaction at the time of observation one or two (both during the period of practice teaching) to the kind of classroom interaction which is most likely to occur at the time of observation five (the end of the teacher's first year of full-time teaching). Pupil data were first examined (Tables 27, 28, and 29). Since the groups of pupils changed, it was not expected that pupil behaviors at the time of observations one or two could be used to predict the kinds of verbalizations the same teacher would elicit from a different group of pupils during her full-time teaching, and they do not.

However, the main question is whether the teacher responses at the time of observations one or two can be used to predict the kinds of responses the same teacher is likely to make later in her teaching. There are significant correlations from the teachers' responses in both observations one and two to her responses at the time of the observation five in Devaluing, Giving a Perfunctory Response, Making an Elaborative Comment, and Valuing (Tables 30, 31, and 32). If observation three is used as the early indicator of later behavior, only the teacher's Devaluing and Valuing responses correlate significantly with the same responses at the time of observation five. We have already noted that the teacher's Valuing responses are not related significantly with any particular pupil verbalization (see Table 26), which suggests that as the teacher gains experience, she expresses Valuing to different or a wider variety of pupil verbalizations.

From these findings it appears that there is some stability in both Devaluing and Valuing responses of teachers, but the degree of relationship is not sufficiently high to permit accurate prediction of the behavior at the time of observation five. Since Valuing responses do not show significant relationships with any other kind of teacher response in observations one or two, the only way in which we could increase the predictability of such behavior at the time of observation five would be to use a multiple r based on the correlations between each of the early observations (one and two) and observation five. This multiple r is .53, much too low for any practical predictive purposes.

---

[9](continued) response in the later observations. This provides a further bit of evidence that several different kinds of pupil verbalizations may be included in this category. By definition, it would indeed have to include any spontaneous comments made by the pupils about the topic under discussion and also any aside comments quite related to the topic. It seems relatively clear from our data that whatever the content, these spontaneous comments were, on the whole, not welcomed by the teachers during the early observations.

Table 27

CORRELATIONS BETWEEN PUPIL VERBALIZATIONS OCCURRING AT THE TIME OF OBSERVATION 1 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Pupil Verbalization at the Time of Observation 1							
Correlated with same category in Observation	Factual Answer	Spontaneous Answers	Reading Aloud	Explanation	Explanation, Personal	Asking Invited Questions Or Giving Reports	Spontaneous Questions	Spontaneous Comments
2	.22	.15	.00	.28	.11	-.03	.14	.53**
3	.12	.08	.05	-.02	.16	-.02	-.08	.30
4	.12	.01	.16	-.00	-.07	-.07	.02	.06
5	-.05	.06	.08	.20	-.10	-.15	.00	.18

Table 28

CORRELATIONS BETWEEN PUPIL VERBALIZATIONS OCCURRING AT THE TIME OF OBSERVATION 2 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Pupil Verbalizations at the Time of Observation 2							
Correlated with same category in Observation	Factual Answer	Spontaneous Answers	Reading Aloud	Explanation	Explanation, Personal	Asking Invited Questions Or Giving Reports	Spontaneous Questions	Spontaneous Comments
3	.41*	-.03	-.06	-.18	.25	-.08	.40*	.50**
4	.09	.22	-.17	.16	-.11	.24	.39*	.18
5	.03	.11	-.09	.14	.18	-.07	.39*	.11

Table 29

CORRELATIONS BETWEEN PUPIL VERBALIZATIONS OCCURRING AT THE TIME OF OBSERVATION 3 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Pupil Verbalizations at the Time of Observation 3							
Correlated with same category in Observation	Factual Answer	Spontaneous Answers	Reading Aloud	Explanation	Explanation, Personal	Asking Invited Questions or Giving Reports	Spontaneous Questions	Spontaneous Comments
4	.23	.59**	-.09	-.04	-.13	-.10	.32	.21
5	.13	-.06	-.03	-.18	-.11	-.01	.20	.13

Table 30

CORRELATIONS BETWEEN TEACHER RESPONSES OCCURRING AT THE TIME OF OBSERVATION 1 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Teacher Response at the Time of Observation 1										
Correlated with same category in Observation	Devalue	Make no Response	Give Perfunctory Response	Repeat	Defer to Later Time	Confirm or Deny Accuracy	Give Directions	Ask Elaborative Questions	Make Elaborative Comment	Answer	Value
2	.67**	.31	.35*	.52**	.02	.02	.21	.16	.53**	.52**	.48**
3	.35*	.06	.11	.20	-.02	.19	.42**	.00	.17	.32	.52**
4	.32	-.06	-.04	.17	.27	-.11	.11	-.05	.31	-.11	.29
5	.63**	.05	.47**	.15	.33	-.22	.28	.02	.51**	.00	.48**

Table 31

CORRELATIONS BETWEEN TEACHER RESPONSES OCCURRING AT THE TIME OF OBSERVATION 2 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Teacher Response at the Time of Observation 2										
Correlated with same category in Observation	Devalue	Make no Response	Give Perfunctory Response	Repeat	Defer to Later Time	Confirm or Deny Accuracy	Give Directions	Ask Elaborative Questions	Make Elaborative Comment	Answer	Value
3	.29	.38*	.03	.31	.52**	.10	.28	.16	.36*	.33*	.58**
4	.42**	.13	.11	.27	.28	.25	.23	.14	.35*	.00	.61**
5	.78**	.47**	.34*	.05	.09	.21	.01	.15	.32	-.05	.49**

Table 32

CORRELATIONS BETWEEN TEACHER RESPONSES OCCURRING AT THE TIME OF OBSERVATION 3 WITH THOSE OCCURRING AT THE TIME OF EACH SUBSEQUENT OBSERVATION

	Teacher Response at the Time of Observation 3										
Correlated with same category in Observation	Devalue	Make no Response	Give Perfunctory Response	Repeat	Defer to Later Time	Confirm or Deny Accuracy	Give Directions	Ask Elaborative Questions	Make Elaborative Comment	Answer	Value
4	.37*	.09	.46**	.27	.20	.30	.09	.13	.33*	.10	.53*
5	.33*	.24	.09	.24	.36*	.31	-.06	-.03	-.22	.10	.64*

However, the teacher's Devaluing behavior shows a high relationship with several of the "Non-constructive" responses, particularly No Response and Perfunctory Response. A combination of the measures of these three kinds of teacher responses (Devaluing, No Response, and Perfunctory Response) at the time of observation one analyzed in a multiple regression equation to predict the dependent variable of Devaluing behavior at the time of observation five yields a multiple r of .66 which is significant beyond the .01 level. Furthermore, a combination of Devaluing and No Response at the time of observation two yields a multiple r of .85 (significant beyond the .01 level) with Devaluing responses at the time of observation five. Although these findings are based on a relatively small number of subjects, and on a response category which occurred relatively infrequently, their consistency suggests that devaluing is one of the more stable teacher behaviors. It appears from this that one can make certain predictions about a teacher's behavior at the end of her first full-time year of teaching from the way in which she responds to the pupils during her practice teaching. Hence, if there is interest in changing or modifying this behavior, it is possible to identify it in the prospective teacher during the period of practice teaching.

Testing the Predictions

Prediction 1. In examining the data regarding the first prediction (that as the teachers become more experienced, there will be a decrease in the occurrence of Answers as a pupil verbalization, and an increase in pupil Explanations, Spontaneous pupil verbalizations, and teacher responses which are Valuing), we refer first of all to Table 24. The average number of pupil verbalizations decreases in each of the three major categories, as does the standard deviation, indicating that there was clearly not an increase in either the pupil explanations or spontaneous verbalizations. Nor was there an increase in the teacher's valuing responses.

Predictions 2 and 3. In order to test the second and third predictions, regarding differences among the classrooms taught by teachers trained in three different methods (see page 242), it is necessary to examine the data separately for each group of teachers taught by a different method or approach. In doing this, a comparison of means alone could be misleading because the absolute sign of the mean would reflect the frequency of interaction in the classroom. It seems that the prediction would not be supported satisfactorily simply because the classrooms of some teachers elicited a larger number of one kind of pupil verbalization than the classrooms of other teachers. Therefore, the comparisons are based on the proportions of total pupil verbalizations in each major category (see Table 33).

Table 33

DISTRIBUTION OF PUPIL VERBALIZATIONS AMONG THE VARIOUS CATEGORIES IN CLASSROOMS TAUGHT BY DIFFERENTLY TRAINED TEACHERS

Proportion of Pupil Verbalizations	Observation I						Observation 2					
	Classrooms Taught by Teachers from Approach:						Classrooms Taught by Teachers from Approach:					
	I		II		III		I		II		III	
Factual Answer	32.2		17.8		25.7		26.5		16.5		25.1	
Spontaneous Answer	2.2		1.3		1.0		.4		.3		.3	
Reading Aloud	2.9		.5		1.9		1.6		1.5		4.0	
Explanation	32.2		35.9		45.9		30.0		35.8		40.8	
Explanation, Personal	10.9		5.8		6.3		3.5		6.6		3.7	
Asking Invited Questions or Giving Reports	.4		4.6		2.6		5.6		4.9		1.1	
Spontaneous Questions	5.4	19.0	4.2	24.9	4.0	16.5	5.5	25.3	16.7	34.3	9.5	24.9
Spontaneous Comments	13.6		20.7		12.5		19.8		17.6		15.4	

Proportion of Total Pupil Verbalizations	Observation 3						Observation 4					
	Classrooms Taught by Teachers from Approach:						Classrooms Taught by Teachers from Approach:					
	I		II		III		I		II		III	
Factual Answer	19.7		12.2		14.8		26.7		14.9		16.2	
Spontaneous Answer	.2		.7		2.8		2.5		.8		7.4	
Reading Aloud	4.0		2.9		2.8		7.7		3.6		1.7	
Explanation	43.0		35.5		36.9		31.6		27.9		34.9	
Explanation, Personal	5.1		4.3		6.5		2.5		1.0		7.1	
Asking Invited Questions or Giving Reports	1.2		.2		5.7		2.1		1.4		0	
Spontaneous Questions	8.5	26.6	13.0	35.1	8.0	30.9	9.4	27.0	24.1	50.4	11.4	32.6
Spontaneous Comments	18.1		22.1		22.9		17.6		26.3		21.2	

Table 33 (Continued)

Proportion of Total Pupil Verbalizations	Observation 5 Classrooms Taught by Teachers from Approach: I		II		III	
Factual Answer	16.2		13.0		12.2	
Spontaneous Answer	4.8		4.1		5.0	
Reading Aloud	5.1		3.6		1.7	
Explanation	40.7		27.9		26.8	
Explanation, Personal	4.3		4.5		7.2	
Asking Invited Questions of Giving Reports	3.3		1.1		1.3	
Spontaneous Questions	8.6	25.5	15.2	36.7	14.0	27.5
Spontaneous Comments	16.9		21.5		13.5	

When these percentages are examined, it appears that the pupils in the classrooms taught by the instructor from Approach 1 (concept-centered) show consistently higher proportions of verbalizations in the Answer category than pupils in classrooms taught by the instructor in Approach II (case study) in the first four observations. And if Reading Aloud is combined with Answers the difference holds for observation five also. A difference in the same direction holds between the classrooms taught by the Approach I and the Approach III (learner-centered) instructor. None of these differences is statistically significant, but the regularity with which they occur suggests that they are not entirely attributable to random variation.

Prediction 3 is likewise not supported by statistically significant differences, although there are some regularities in the data. Spontaneous pupil verbalizations (including both questions and comments) occur consistantly more often (through all five observations) in classrooms taught by the Approach II instructor than in classrooms taught by Approach I instructor. In classrooms taught by Approach III teachers (which is the group named in our prediction as most likely to encourage spontaneous verbalizations) such verbalizations are consistently lower than in Approach II classrooms, although in the last three observations they are somewhat more frequent than in Approach I classrooms.

Valuing responses of teachers, expressed as a proportion of the total teacher responses, occur more frequently in both Approach II and Approach III classrooms than in those taught by the Approach I instructor, but the differences do not reach statistical significance (see Table 34).

Summary and Conclusions

A method of analyzing a specific and partial aspect of classroom verbal communication has been described in this chapter, and from preliminary work the method has been shown to be reliable and feasible for use with tape recordings of classrooms as well as in actual observation. By means of this technique, we can describe objectively the pupil verbalizations in the classroom and the specific teacher response to each verbalization. This is an aspect of the total verbal interaction which we hypothesize as important from the point of view of student's learning, students' attitudes toward school, and perhaps students' mental health. The method seems particularly applicable for use in direct work with student teachers, in helping them see the kind of pupil verbalizations occurring in the classroom and the ways in which they are responding to the pupils.

Our finding indicate that although there is, understandably, a wide variation among teachers in the kinds of pupil verbalization occurring in their classrooms and the kinds of responses made to the pupils, certain regularities occur consistently. Notable among these

Table 34

DISTRIBUTION OF TEACHER RESPONSES TO PUPIL VERBALIZATIONS
BY DIFFERENTLY TRAINED TEACHERS

Proportion of Total Teacher Responses	Observation I			Observation 2		
	Teachers from Approach			Teachers from Approach		
	I	II	III	I	II	III
Devalue	1.6	2.3	1.0	1.6	2.0	1.6
Makes No Response	10.0	14.9	8.5	11.1	12.8	8.9
	23.2	26.3	22.3	22.1	23.8	19.4
Give Perfunctory Response	11.6	8.1	12.8	9.4	9.0	8.9
Repeat	14.1	11.5	13.8	10.2	7.0	10.9
Confirm or Deny Accuracy	13.3	7.7	11.8	8.3	14.5	12.7
Defer to a Later Time	5.3	4.0	3.2	2.7	5.4	4.1
Give Directions	4.1	3.1	3.8	6.5	3.6	4.1
Ask Elaborative Questions	16.7	12.7	15.7	13.6	12.3	18.1
Make Elaborative Comment	15.5	8.7	16.0	17.7	12.8	15.1
Answer	4.0	5.8	4.5	7.2	10.2	3.2
Value	3.7	10.8	8.6	4.1	10.5	12.3

Table 34 (Continued)

Proportion of Total Teacher Responses	Observation 3						Observation 4					
	Teachers from Approach						Teachers from Approach					
	I		II		III		I		II		III	
Devalue	1.8	27.4	1.7	24.0	1.3	27.8	.9	24.5	1.8	18.5	2.1	28.0
Make No Response	12.5		11.5		10.9		8.2		8.8		15.1	
Give Perfunctory Response	13.1		10.8		15.6		15.4		7.9		10.8	
Repeat	7.1		6.0		6.0		7.9		3.0		8.1	
Confirm or Deny Accuracy	13.5		13.1		11.1		11.2		20.4		10.0	
Defer to a Later Time	14.6		6.2		7.2		6.1		8.8		6.2	
Give Directions	3.4		3.1		4.8		4.7		3.3		5.3	
Ask Elaborative Questions	11.5		11.1		10.1		14.6		10.6		12.1	
Make Elaborative Comment	22.4		14.6		20.0		22.1		22.0		22.5	
Answer	4.1		4.1		3.2		1.9		3.5		2.2	
Value	6.0		8.6		10.0		7.1		9.8		5.5	

Table 34 (Continued)

Proportion of Total Teacher Responses	Observation 5					
	Teachers from Approach					
	I		II		III	
Devalue	1.5	25.0	1.1	18.2	.5	19.6
Make No Response	8.9		8.3		6.1	
Give Perfunctory Response	14.6		8.8		13.0	
Repeat	6.4		4.3		5.0	
Confirm or Deny Accuracy	11.6		17.9		13.0	
Defer to a Later Time	5.5		4.9		3.6	
Give Directions	2.5		3.6		2.5	
Ask Elaborative Questions	15.5		9.4		10.9	
Make Elaborative Comment	25.8		22.9		20.5	
Answer	1.9		2.5		2.4	
Value	5.6		7.2		4.5	

are the association of certain teacher responses to pupil verbalizations such as the asking of elaborative questions after a pupil offers factual answers, the asking of elaborative questions and making elaborative comments following a pupil's explanations, the giving of direct answers or deferring to a later time of a pupil's spontaneous questions, and making no response to or devaluing a pupil's spontaneous comments.

Furthermore, although our data suggest that one cannot predict pupil verbalizations from one observation to the next, we have found that certain teacher behaviors occurring in the early observations made during practice teaching show significant relationships with the same behaviors at the end of the first year of full-time teaching. Valuing behavior shows considerable regularity from one observation to the next and from early to late observations, although not sufficiently high for accurate prediction. Devaluing behavior shows even greater regularity and, since it is highly correlated with other "Non-constructive" behaviors in the early observations, it has been possible to construct a multiple regression equation which can be used in predicting the occurrence of devaluing responses on the part of the teacher at the end of the first year of full-time teaching.

Further research is needed to determine whether certain patterns of pupil verbalization and teacher responses are associated with effective learning on the part of the pupils and whether such an association holds for all ability levels or whether it varies with ability levels. Numerous hypotheses could be stated at this point regarding expected relationships.

The relationship between patterns of interaction in the classroom and attitudes toward school should also be investigated. Do pupils whose spontaneous verbalizations are welcomed and utilized by teachers have more favorable attitudes toward school than those whose verbalizations are devalued and discouraged? We might also ask in the mental health context what effect the various teacher responses have upon the self-esteem of the pupil. It seems possible by the procedures described above to throw considerable light on these questions.

BIBLIOGRAPHY

Bruner, J. S. On Knowing: Essays for the Left Hand. Cambridge, Mass.: Harvard University Press, 1962. 165 pp.

____________. "The Growth of Mind," American Psychologist, 1965, 20, pp. 1007-17.

Flanders, N. A. "Teacher Influence, Pupil Attitudes, and Achievement," Cooperative Research Reports, Monograph 12, United States Department of Health, Education, and Welfare. Washington: Government Printing Office, 1965.

White, R. W. "Motivation Reconsidered: The Concept of Competence," Psychological Review, 1959, 66, pp. 297-333.

Wolpe, J., A. Salter, and L. J. Reyna. The Conditioning Therapies. New York: Holt, Rinehart and Winston, 1964. 184 pp.

CHAPTER VIII

PUPILS' PERCEPTIONS OF TEACHER COMMUNICATION

by

Dorothy Sawin and M. Vere DeVault

A central task of the Wisconsin Teacher Education Research Project was the study of teacher communication. Much of the research effort in this direction was related to the study of two systems used to categorize teacher communication behavior as recorded by trained observers. There is ample reason to question the extent to which trained observers with the most sophisticated interaction analysis systems are able to record valid measures of a teacher's communication with children. Inter-judge as well as intra-judge congruence seldom reach desired levels. The reliability of the measuring instruments themselves has seldom been questioned and almost never studied. The extent to which the total communication behavior of a given teacher in the classroom has been adequately sampled certainly may be questioned. But assume for a moment that these and other problems which plague interaction analysis studies could be solved adequately and that valid and reliable measures of what teachers say could be obtained. Is it the "teacher saying" or the "pupil hearing" that is important? Is it the "teaching" or the "learning" which should be the focus of our attention either as teachers or as researchers? The present chapter, then, reports that portion of the study which was concerned with pupils' perceptions of what the teacher says.

Broadly stated, the purpose was to determine the nature of teacher communication as it was perceived by pupils and to examine the extent to which this pupil perception of teacher communication was related to pupil reports of self, peers, and school.

Specific problems of the study were:

1. To determine the dimensions of teacher communication as perceived by pupils.

2. To determine the relationship of pupils' perceptions of teacher communication to perceptions of self, peers, and school.

Procedures

During their first year of teaching experience, the communication behavior of thirty-three teachers was sampled on three different occasions using a pupil perception instrument. The first round of data was collected in October; the second in January; and the third in April-May. Complete data used in this chapter were available for 638 pupils in Round 1, 662 pupils in Round 2, and 661 pupils in Round 3. The procedures used in the collection of these data and descriptions of instruments were discussed in Chapter 2. The pupil perception instruments used included:

Child Report:	Teacher Communication Scale (Actual-Ideal)
Child Report:	Peer Behavior Characteristics Scale
Child Report:	Children's Behavior Characteristics Scale (Actual-Ideal)
Child Report:	School Attitude Scale

Dimensions of Teacher Communication

Items with which pupils could describe communication were derived from twelve of the fourteen categories of the observational teacher communication system. The pupil perception items and the parallel communication categories are shown in Table 5, Chapter 2. In order to determine the constructs of the perceived teacher communication behavior, three independent factor analyses were undertaken, one for each of the three rounds. The loadings on the highest four factors for all three analyses are shown in Table 35.

Factor I (Table 36) appears to be associated with something which might be called Academic Orientation. The teachers perceived in this way by children seem to know many facts and are able to explain these clearly in their presentations to children. They listen to children's responses and contributions to class discussions. Teachers low on this factor probably have less understanding of the subject matter and explain it poorly to pupils. At the same time, these teachers' insecurity is likely to cause them to listen less to the contributions of children because of inability to evaluate these contributions in the context of the total lesson. Of note are the particularly high loadings for items 1 and 11 for Round 3. Throughout the analyses there is less strength evidenced by the size of the loadings in the Round 1 analysis than in either Rounds 2 or 3. This may be a result of the fact that pupils had been in classes for a relatively short period of time when the Round 1 data were collected and their perceptions of teachers were not at that time well-formulated.

Teachers high on the Personal factor were probably those concerned with the personal element in instruction. They wanted to know how pupils thought and felt about organizational matters and about lesson content. They also communicated their own thoughts and feelings to pupils. Teachers scoring low on this factor apparently were those who were less concerned with the feelings and thoughts of pupils as they worked with the class. This personalization was not an affective element in instruction as indicated by the low loadings on items 7 and 12 (Table 35). It simply indicates that teachers high on this factor have found ways of relating their own personal concerns and those of their pupils to the ongoing operation in the class room.

Table 35

LOADINGS ON THE HIGHEST FOUR FACTORS FOR THE TWELVE ITEMS ON THE CHILD REPORT: TEACHER COMMUNICATION SCALE (ACTUAL) FOR THREE ROUNDS

Items	Round	Factors I	II	III	IV	b^2
1.	1	.21	-.18	-.19	-.01	.29
	2	.33 *	-.40	-.13	.11	.38
	3	.60	-.19	-.02	.18	.46
2.	1	.02	-.13	-.51	-.08	.31
	2	.05	-.10	-.19 *	-.07	.34
	3	-.05	-.11	-.28	-.09	.14
3.	1	.13	-.51	.15	.13	.33
	2	.23	-.44	.09	-.00	.32
	3	.26	-.50	.12	.13	.37
4.	1	-.20	.16	-.16	-.47	.36
	2	-.30	.17	-.09	-.18	.49
	3	-.36	.10	-.27	-.29	.32
5.	1	.07	-.55	-.02	-.06	.35
	2	.12	-.60 *	.11	.03	.42
	3	.13	-.71	.04	.16	.55
6.	1	.08	.20	-.49	-.02	.31
	2	.03	.12	-.53 *	-.01	.33
	3	.05	.20	-.55	.04	.35
7.	1	-.17	-.02	-.01	-.66	.48
	2	-.16	.06	-.00	-.66 *	.57
	3	-.20	.17	-.05	-.71	.59
8.	1	.12	-.49	-.19	.17	.50
	2	.07	-.65 *	.12	.17	.51
	3	.12	-.71	.06	.13	.60
9.	1	.11	-.28	-.07	.01	.42
	2	.05	-.52 *	-.02	.13	.32
	3	.13	-.30	-.08	.14	.46
10.	1	.54	-.23	-.06	.17	.39
	2	.57 *	-.14	-.03	.25	.44
	3	.43	-.17	.02	.55	.57
11.	1	.51	-.03	-.08	.12	.31
	2	.53 *	-.15	-.02	.22	.42
	3	.64	-.15	-.03	.31	.54

Table 35 (Continued)

		Factors				
Items	Round	I	II	III	IV	b^2
12.	1	.44	-.06	.09	.30	.47
	2	.32	-.22	.02	.65*	.57
	3	.37	-.18	.03	.56	.52
Percent of common variance	1	20.10	23.18	14.41	18.64	
	2	19.60	30.36	7.34	20.86	
	3	25.21	28.34	8.77	26.03	

Table 36

FACTORS DERIVED FROM ROTATED FACTOR MATRIX OF THE TWELVE ITEMS ON THE CHILD REPORT: TEACHER COMMUNICATION SCALE (ACTUAL)

Factor and Item Description	Round		
	1 (N=638)	2 (N=662)	3 (N=661)
I. Academic Orientation			
1. Some teachers can give you facts about many things.	.20	.33	.60*
10. Some teachers listen to you when you want to tell them something.	.54*	.57*	.43
11. Some teachers can explain things clearly.	.51*	.53*	.64*
II. Personal Orientation			
5. Some teachers ask you how you think things should be done.	.55*	.60*	.71*
8. Some teachers ask you how you think and feel about things.	.49*	.65*	.71*
9. Some teachers let you know how they feel and think about things.	.28	.52*	.30
III. Structure Orientation			
2. Some teachers ask lots of questions about things in school.	.51*	.19	.28*
6. Some teachers tell you exactly what to do.	.49*	.53*	.55*
IV. Affective Orientation			
7. Some teachers make you feel as if they don't like you.	-.66*	-.66*	-.71*
12. Some teachers make you feel as if they were your friend.	.30	.65*	.56*

---

* Highest loading of item was on indicated factor.

Factor III includes high loadings on only two items and these include perceptions of teachers as those who "ask lots of questions about things in school," and those who "tell you exactly what to do." This factor appears to be a structure factor; one in which teachers who score high would be those who tend to be perceived as using direct rather than indirect means to influence pupil behavior, or those who are less likely to encourage pupil participation as a means of influencing the direction of the ongoing activities.

The Affective Orientation (Factor IV) appears to be simply a matter of whether or not the teacher is perceived as one who makes pupils feel as if they are liked by the teacher. Apparently, this factor was not well-established at the time of the first round of data collection early in the year. Later the loadings on this factor represented some of the highest obtained for any of the factors.

Development of Factor Scores

Utilizing the information gained from the factor analyses, representative scores were derived for each pupil for each of the four factors at each observational period. These cumulative scores resulted from the summation of the individual scores for items in each factor as reported in Table 36. Each item was rated 4, 3, 2, or 1, for YES, yes, no, or NO, respectively. Thus, for Factors I and II each of the three items with each factor had a value of from 1 to 4 and these three values were summed. The resultant set of scores ranged from 3, for a 1 or a NO on each item, to 12, for a 4 or a YES on each item. For Factors III and IV, with only two items each, the set of scores ranged from 2 to 8.

Correlational Analyses

Class means for boys, for girls, and for all pupils were used in the correlational analyses which investigated the relationship between pupils' perceived teacher communication and pupils' perceptions of self, peers, and school. Five significant correlations out of ninety-six were found for the first observation. At the time of the mid-year second data collection period, twenty of the ninety-six correlations were significant, and finally, by the end of the year, fifty of the ninety-six correlations were significant (Table 37). The relatively small number of significant correlations found at the time of the first observation and, to some extent, also at the time of the second observation period might have been anticipated from several points of view. First, pupils' perceptions of teachers were not as fully formulated as they were at the end of the year; second, peers' perceptions of their classmates were not yet based on a substantial acquaintance developed over a long period of time; third, attitudes toward school were still as much or more a result of past

Table 37

CORRELATIONS AMONG PERCEIVED TEACHER COMMUNICATION MEAN FACTOR SCORES AND PUPIL PERCEPTIONS OF SELF, PEERS, AND SCHOOL FOR THIRTY-THREE CLASSES AT THE THIRD OBSERVATION PERIOD

Perceived Communication	Pupil Perception							
	Self-Satis-faction	Self			Peer			School Attitude
		Socially Acceptable	Aggressive	With-drawn	Socially Acceptable	Aggressive	With-drawn	
Academic Orientation								
Boys	.33	.32	-.13	-.06	-.08	-.26	-.12	.54**
Girls	.37*	.38*	-.30	-.28	.05	-.14	-.24	.73**
Total	.40*	.36*	-.32	-.21	-.14	-.39*	-.29	.69**
Personal Orientation								
Boys	.35*	.38*	-.21	-.01	-.03	-.23	.01	.51**
Girls	.50**	.49**	-.43*	-.34	-.06	-.20	-.03	.74**
Total	.54**	.52**	-.47**	-.26	-.13	-.41*	.00	.73**
Structure Orientation								
Boys	.41*	.44**	-.42*	-.45**	-.04	-.42*	-.35*	.31
Girls	.37*	.46**	-.44**	-.43*	.04	-.45**	-.35*	.42*
Total	.42*	.43*	-.56**	-.51**	-.07	-.53**	-.44*	.41*
Affective Orientation								
Boys	.20	.27	-.34	-.26	-.33	-.25	.05	.65**
Girls	.37*	.44**	-.26	-.39**	.15	-.16	.04	.58**
Total	.40*	.40*	-.46**	-.43*	-.21	-.40*	-.14	.75**

* Significant at the .05 level. ** Significant at the .01 level.

school experiences as they were a result of present school activities under the direction of the teacher about whom pupils were reporting; and finally, if teacher communication does have an impact on pupil behavior as perceived by peers, on pupils' self concept, or on school attitudes, the first month of school was likely insufficient time for this teacher's impact to have been felt.

By the end of the year, however, the fifty meaningful and significant correlations resulted from an entire year's impact of communication and of the pupils' acquaintance with both teachers and peers. At the end of the year, teachers' Academic Orientation scores (Factor I) shown in Table 37 were significantly related to girls' self satisfaction and girls' perceptions of themselves as socially acceptable. School attitudes of all pupils were positively related to their perceptions of teachers as Academically Oriented. Teachers' Personal Orientation scores (Factor II) were positively related to pupils' positive perceptions of school, to their self satisfaction scores, and to their self perceptions as socially acceptable. Teachers' Structure Orientation (Factor III) was significantly related to all self perception scores, negatively to aggression and withdrawn tendencies, and positively to social acceptability and to self satisfaction. Teachers' Structure Orientation was negatively related to pupils' perceptions of peers as aggressive and as withdrawn. School attitudes of girls but not of boys were positively related to their perceptions of teachers as Structure Oriented. Teachers' Affective Orientation (Factor IV) was related to girls' but not to boys' positive perceptions of self. Positive school attitudes, however, were positively related to pupils' perceptions of teacher as high on the Affective Orientation for both boys and girls.

Conclusions and Discussion

From the results it can be concluded that the communication of teachers as perceived by pupils was related to a variety of pupil perception factors. It can also be concluded that the strength of these relationships increased the longer the teacher and children were together. These relationships were particularly significant for school attitudes, and for pupils' concepts of self. The relationships between self perceptions derived from self report and teacher communication behavior perceived as personal, as structured, or as affective were particularly strong.

Specifically, what can be said about the relationship between teacher communication and pupils' perceptions of self, peers, and school? First, it can be reported that a greater number of pupils gave positive reports of self concept in these classrooms where teachers were personally and affectively oriented and where they provided structure for boys and girls. In such classrooms pupils were generally better satisfied with self, they perceived themselves as socially acceptable, as less aggressive and less withdrawn than pupils in classrooms where teachers were perceived as less personally, affectively, or structurally oriented. School attitudes were also higher in such classes. Apparently the structure orientation was not as strongly related, particularly for boys to school attitudes, as were the other factors, even though structure orientation was strongly related to positive concepts of self.

In at least two ways the data reported tend to indicate that pupil perception of teacher communication behavior was valid. The consistency of the factors over the period of the three observations provides some indication of construct validity, whereas the increased number of significant relationships established between these factors and other pupil perception scores provide evidence of stronger concurrent validity. It is of interest to note that neither form of validity was as well represented by the observed teacher communication data when either the fourteen category or the thirty-nine category system was employed. Neither of these observational systems resulted in consistency of factors over time. That lack of consistency raised some question about the construct validity of those methods of describing teacher communication. Thus, concurrent validity was apparently weaker for the observational systems than it was for the pupil perception data reported in this chapter.

If the pupil perception data are more valid than the observation method of reporting teacher communication, some real questions can be raised about the feasibility of utilizing interaction analysis techniques in attempts to describe teachers' communication behavior in the classroom. Certainly it is easier to collect data from pupils than to train observers and then record data during a series of observations in a classroom. In addition, the problem of sampling the teacher's behavior is lessened in that it can be expected that pupils report their perception of the teacher as a continuing influence in their classroom experience. When using outside observers, one is never quite sure, the teacher no less than others, how much of her behavior at the time of the observation is her regular classroom manner. Bales's[1] original category system was used for purposes of reporting the interaction of small groups in relatively short time periods. Certainly there were fewer reasons for securing information from these small group participants than there are for securing this kind of information from pupils in a classroom. Could it be that interaction analysis techniques are less appropriate for classroom use than would seem to be indicated by the rather large number of investigations currently under way in this field? Perhaps more time should be spent in developing instruments with which a variety of aspects of teacher communication can be described by pupils in the classroom. Is it possible that if one wants to know what a teacher does, one should consult the learner?

---

[1] Robert F. Bales, Interaction Process Analysis: A Method for the Study of Small Groups (Cambridge: Addison-Wesley, 1949).

CHAPTER IX

PUPIL PERCEPTIONS OF TEACHER, PEERS, SELF, AND SCHOOL

by

Dan W. Andersen and Michael Bohleber

Purpose

The purpose of this chapter is to examine children's perceptions of certain aspects of the classroom social-emotional environment. This investigation is yet another aspect of the Wisconsin Teacher Education Research Project. As has been stated in earlier chapters, the Project was proposed as a study of the effects of different instructional approaches upon college students preparing to teach in elementary schools. These effects were to be studied in various ways, with a central concern being the consideration of the kinds of classroom interaction created by differentially prepared teachers and the effects of these interactions upon pupil school adjustment. This chapter will deal primarily with the latter aspect--pupil school adjustment. For purposes of this study, pupil school adjustment will be interpreted by focus on pupil perceptions of teacher, peers, self, and school.

Background

It is Combs and Snygg's[1] fundamental thesis that all behavior is a function of the individual's perceptions. Behavior is seen as being lawful and meaningful, capable of being observed and interpreted. To the child himself, behavior always seems relevant, purposeful, and caused. To the individual, the causes of his behavior appear to be in the world around him. The important thing to remember about the child in the classroom situation is that it is the perceived situation, the situation as it appears to the child, which influences behavior. Each child, then, has his own, individual way of perceiving, and this perception determines his behavior. Carl Rogers[2], in discussing perception and reality, says:

> The organism reacts to the field as it is experienced and perceived. This perceptual field is, for the individual, "reality." I do not react to some absolute reality, but to my perception of this reality. It is this perception which for me is reality.

---

[1] Arthur W. Combs and Donald Snygg, Individual Behavior: A Perceptual Approach to Behavior (New York: Harper & Bros., 1959).

[2] Carl R. Rogers, Client-Centered Therapy (Boston: Houghton Mifflin Co., 1951).

To understand the child from his own point of view, attention must be focused on the environment in which the child interacts with others. For purposes of this study, the environment is the elementary school classroom and the social-emotional climate wherein the child perceives self and others.

One of the goals of education, according to Combs and Snygg[3], is the production of adequate behavior. They defined adequate behavior in terms of one who (1) perceives himself in essentially positive ways, (2) is open to his experience or capable of accepting self and others, and (3) is strongly and broadly identified with others. One way of investigating the social-emotional climate and mental health of pupils in the classroom is through the children's perceptions of teachers, peers, themselves, and school. Few have asked the child how he perceives the situation, although many researchers have studied this problem using adult observers and judgments.

Factors affecting the child's feelings toward his teacher are complex. The different ways in which pupils perceive the behavior and roles of teachers define and limit in much the same way as teachers' perceptions of pupils the kinds of interpersonal relationships that can be established in the school and their impact on personality development. Hart[4] found that pupils responded to teachers as persons and not only as dispensers of knowledge. Their affective reactions to teachers, for example, seemed to depend as much on the personality characteristics of teachers as on their teaching skill, although there was considerable overlap between teachers liked best and teachers thought most effective. Pupils admired teaching skill, clarity, task-orientation, and good classroom control, and they also appreciated fairness, impartiality, friendliness, patience, cheerfulness, and sympathetic understanding. They liked teachers who were interested in pupils and who were helpful, kindly, and considerate of their feelings.

A number of studies[5, 6, 7, 8] have demonstrated that the behavior of significant adults has an effect on children's emotional health or behavior. Few studies have collected data on ways in which children perceive these adults. As Combs and Snygg[9] have said, people do not behave according to the facts as others see them; they behave according to the facts as they see them. What governs behavior from the point of view of the individual himself are his unique perceptions of himself and the world in which he lives: the meanings things have for him.

---

[3] Combs and Snygg, op. cit.

[4] F. W. Hart, Teachers and Teaching (New York: Macmillan, 1934).

[5] Eli M. Bower, "Primary Prevention in a School Setting," Prevention of Mental Disorders in Children (Gerald Caplan, ed.) (New York: Basic Books, 1961).

[6] J. C. Hirschberg, "The Role of Education in the Treatment of Emotionally Disturbed Children Through Planned Ego Development," American Journal of Orthopsychiatry, 23:684, 1953.

[7] W. C. Morse, "A Research Evaluation of an Action Approach to School Mental Health," American Journal of Orthopsychiatry, 31, No. 2, 1961.

[8] Ralph D. Rabinovitch, "Reading and Learning Disabilities," American Handbook of Psychiatry (Solvano Arieti, ed.) (New York: Basic Books, 1959).

This study of the perceptions of children was designed to extend our knowledge of teacher behavior which has a relationship and possible influence on pupil behavior in the classroom. It also was an intent in the study to examine the perceptions children have of their peers, themselves, and school. There is a need for more evidence in these areas if we are to prepare teachers more adequately and to make them cognizant of their roles in teaching and the influence of their behavior on children's social and emotional development.

Perceptual Referents of the Study

In an attempt to derive the children's perceptual field as it pertains to pupil school adjustment in the elementary classroom, the following referents were investigated:

1. Pupils' perceptions of teacher communication behavior.
2. Pupils' perceptions of classroom peers.
3. Pupils' perceptions of themselves.
4. Pupils' school attitudes.

In each case, the perceptual referent is examined as it relates to (1) sex, (2) grade level, and (3) time of observation.

Procedures

Population

Thirty-six first-year teachers, all graduates of the University of Wisconsin elementary teacher education program, teaching in public school grades one through six with a total select pupil population of 660, comprised the subjects for this study. Sixteen teachers were in the Madison, Wisconsin public schools; eleven teachers were in Wisconsin schools outside of Madison; three taught in California, two in Colorado, two in Ohio and one each in Illinois and Minnesota.

---

[9] Combs and Snygg, op. cit.

The distribution of the randomly selected sample from the pupil population used in the analyses is reported by grade and sex in Table 38.

Table 38

DISTRIBUTION OF PUPIL POPULATION
BY GRADE AND SEX

	Sex		
Grade	Boys	Girls	Totals
Primary	108	108	216
Intermediate	108	108	216
Totals	216	216	432

Data Collection Procedures

The longitudinal design of this study dictated that data be collected at three different periods during the school year. The periods selected for data collection were: September-October; January-February; and May-June. Because of the size of the population, the extreme distances between classrooms and the requisite that a few trained individuals administer the tests, the testing required approximately three weeks to complete for each period.

A battery of four tests, (1) My Teacher, (2) Classmates, (3) About Me, and (4) What I Think About School, was administered to all pupil subjects. These paper-pencil tests were included in a mimeographed booklet and required pencil responses in the preferred column.

Description of Instruments

My Teacher. The test, My Teacher, which consists of a twelve-item inventory, was derived from a set of fourteen observational categories designed to reflect the teacher-pupil communication interactions in the classroom.* Two categories were omitted in the children's questionnaire. One refers to perfunctory agreement, a concept which is not believed to be amenable to discrimination by elementary school children. The other refers to absence of communication--where no sending or receiving is taking place.

---

* It will be recalled from the discussion on teacher communication in Chapter 6 that from the basic fourteen categories, thirty-nine different communication acts were assembled for observational recording.

The My Teacher test was designed as a paper-pencil test with twelve items to ascertain pupils' perceptions of their teacher's communication pattern or behavior. (See Appendix A.)

From the twelve items, four factors were extracted when rotated by varifax method. A list of factor loadings of the rotated factors appears in Table 39. Factor loadings of .20 or higher were arbitrarily selected as indicating inclusion of items in a factor except in Factor II in which the cut-off point was .40. The four factors reported in Table 39 are labeled (I) Academic Orientation, (II) Personal Orientation, (III) Structure Orientation, and (IV) Affective Orientation.

Factor I. Academic Orientation. Pupils perceiving teachers high in this factor, which included three items, saw teachers as listening to them when the pupil wanted to tell the teacher something, able to explain things clearly, and able to give the facts about many things. The factor also is related to clearness in explanation and seems to allude to organizational ability on the part of the teacher, although not in the sense that it is structuring or teacher directiveness. Teachers who score high on this factor are perceived by their pupils as concentrating on subject matter.

Factor II. Personal Orientation. This factor included four items. Teachers high in this factor may be described as those who ask how others think and feel about things, let students know how they feel and think about things, ask how students think things should be done, and ask lots of questions about things in school. There is an affective connotation and a sending orientation or behavior on the part of the teacher in this factor.

Factor III. Structure Orientation. This factor included five items, two of which were negatively correlated with the factor. Teachers high in this factor were seen by pupils as too busy to notice when they needed help, as telling them exactly what to do, asking lots of questions about things in school, not asking how pupils thought things should be done, and not suggesting different things so pupils could choose for themselves. This was the directive teacher with a definite sending communication pattern.

Factor IV. Affective Orientation. Three items appeared in this factor which described teacher behavior clearly in the affective realm. Teachers high in this factor were perceived as relating to their pupils, making pupils feel as if they were their friend, listening to pupils when they wanted to tell the teacher something, and not making the students feel as if the teacher didn't like them.

Satisfaction with Teacher Communication. There were two aspects of the My Teacher test. Although identical in format and stem statement, the test included two different forms eliciting different responses. The first form given was My Teacher (Actual), and in this form

Table 39

ROTATED FACTOR MATRIX OF THE TWELVE ITEMS
ON THE MY TEACHER TEST

	Factors			
Item	I. Academic Orientation	II. Personal Orientation	III. Structure Orientation	IV. Affective Orientation
1. Gives facts	.332*	.203	.005	-.009
2. Asks questions	.166	.420*	.261*	.026
3. Suggest activities	.184	.179	-.256*	.138
4. Too busy	-.159	.034	.429*	-.125
5. Seeks direction	.070	.467*	-.359*	-.007
6. Tells what to do	.095	-.046	.351*	-.012
7. Doesn't like you	-.152	.035	.176	-.450*
8. Asks opinion	.175	.538*	-.189	.121
9. Gives opinion	.110	.489*	-.017	.102
10. Listens	.402*	.087	-.004	.222*
11. Explains clearly	.353*	.097	-.098	.149
12. Friendly	.107	.212	.005	.467*

* Significant at the .05 level

the subject was asked to respond about the classroom teacher he presently had -- "Is my teacher like this?" In the second form, My Teacher (Ideal), the subject was asked to respond about a kind of teacher he would like to have -- "Would I like a teacher like this?"

Responses to these two forms would not only answer questions providing profile data on the "actual" teacher and the "ideal" teacher, but it would also permit an analysis of pupil satisfaction of teacher communication behavior. That is, one could examine the discrepancy scores between "teacher actual" and "teacher ideal." Consequently, from these two forms of the My Teacher test, three dimensions of teacher communication are available: (1) children's perceptions of the actual teacher's communication behavior; (2) children's perceptions of the ideal teacher's communication behavior; and (3) children's satisfaction with teacher communication--comparison of what children "have" with what they "would like" in teacher behavior.

Classmates. The Classmates instrument is a variant of standard sociometric procedure, involving the presentation of brief behavior characteristic traits to a group of children with instructions to assess which members of the peer group fit the description.

The Classmates test used in this study was adapted from a test developed by Lewis[10], who had analyzed and revised items from earlier studies done by Havighurst and others[11] and Mitchell[12].

This is a nine-item test, three items describing each of the three constructs: socially acceptable, aggressive, and withdrawn. In order to facilitate the children's task of responding about their peers, and for ease in computation of their responses, a sheet possessing the names of each child in the classroom, with an accompanying identification number, was presented to each child with the test form. The children were instructed to read each item and respond by putting the numbers (corresponding to the child on the name sheet) of the boys and girls whom they selected as possessing the characteristics of that particular item. This procedure yielded a mean score for each pupil on each of the three factors--socially acceptable, aggressive, and withdrawn, as derived from the ratings given him by all of his classmates. (See Appendix B.)

About Me. The About Me test is a nine-item test, three items describing each of the three constructs: socially acceptable, aggressive, and withdrawn. These items except for change in referent--from peer to self--are similar to the items used in the Classmates report. The About Me test permits each child to indicate how strongly he feels he is like or not like the persons described. The format of the items is so arranged that each child responds on a scale from YES, yes, no, NO as to where he sees himself on the particular behavior characteristic trait. This test yields a score on each of the three factors: socially acceptable, aggressive, and withdrawn for each pupil in the classroom. (See Appendix C.)

---

[10] W. W. Lewis, "The Construct Validation of a Reputation Test" (unpublished Doctoral dissertation, Division of Human Development and Guidance, George Peabody College for Teachers, 1959).

[11] R. J. Havighurst and others, "A Community Youth Development Program," Supplementary Education Monographs, 1952, No. 75, 59.

[12] J. V. Mitchell, "The Factor Analysis of a 'Guess-Who' Questionnaire Designed to Identify Significant Behavior Patterns in Children," Journal of Personality, 1956, 24, 376-386.

As in the My Teacher test, there were also two forms of the About Me test. In the first part of the About Me (Actual) test, the pupil is asked to indicate how strongly he feels he is like or is not like the person described -- "Do I want to be like this?" In order to reduce the influence of the pupil's response of the first part to his response to the second part, the two parts were widely separated in the test booklet.

Consequently, from the two forms of the About Me test, three dimensions of self perception were available: (1) children's perceptions of their actual behavior characteristics; (2) children's perceptions of their ideal behavior characteristics; and (3) children's self concept--the degree of discrepancy between a pupil's self perception and an ideal self; between his perceptions of himself as he is and as he would like to be.

About School. The About School test was made up of twelve items to assess children's perceptions of their school in various aspects: the classroom, learning, school in general. The test was developed primarily by the Wisconsin Teacher Education Research Project staff. Ordering of the items was arranged to reduce bias from response set with six negative and six positive items. By prefixing the items with the words "some children say," it was expected that the attitude expressed by each item would be regarded as the "norm" for a set of children and that the respondent would be more willing to express his own negative feelings if he were "agreeing" with this imagined set of peers. The children were instructed to read the items and mark their responses on a scale from YES, yes, no, NO as to agreement with that particular school attitude. (See Appendix D.)

Discussion of Findings

As stated in an earlier section of this chapter, the four perceptual referents--teacher, peers, self, and school--were examined in relation to sex, grade level, and time of observation. It will be the purpose of this section to review the findings of each of these perceptual referents.

Pupils' Perceptions of Teacher Communication Behavior

I. Academic Orientation. On this factor of perceived teacher communication, the data (Table 40) indicate that girls "see" teachers as much more capable of "clear explanations" and factual orientation about subject matter than do boys. Again there is no significant difference in the way the primary and intermediate grade children see this aspect of teacher behavior, nor is there a difference over the three different periods of testing in the way children regard this factor.

II. Personal Orientation. The perceived Personal Orientation among students (Table 41) differed by grade and by sex. Girls perceived

Table 40

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED TEACHER COMMUNICATION (ACADEMIC ORIENTATION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	10.89	10.47	10.53	10.35	10.91	10.63
Intermediate	10.81	10.38	10.39	10.28	10.77	10.52
Subtotals						
Boys	10.47	10.15	10.32			10.32
Girls	11.22	10.69	10.60			10.84
Total	10.85	10.42	10.46			10.58

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	15.93	2	7.97	2.570	
Grade (G)	1.23	1	1.22	<1	
Sex (S)	29.56	1	29.56	9.538	.01
RG	.06	2	.03	<1	
GS	.11	1	.11	<1	
RS	4.03	2	2.02	<1	
RGS	6.87	2	3.43	<1	
Error	1301.69	420	3.10		

Table 41

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED TEACHER COMMUNICATION (PERSONAL ORIENTATION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	8.39	7.78	8.11	7.79	8.40	8.09
Intermediate	8.58	8.60	8.78	8.46	8.84	8.65
Subtotals						
Boys	8.31	7.64	8.43			8.13
Girls	8.67	8.74	8.46			8.62
Total	8.49	8.19	8.44			8.37

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	7.53	2	3.77	<1	
Grade (G)	33.89	1	33.89	6.420	.05
Sex (S)	26.50	1	26.50	5.020	.05
RG	7.64	2	3.82	<1	
GS	1.45	1	1.45	<1	
RS	21.56	2	10.78	2.042	
RGS	5.17	2	2.59	<1	
Error	2217.25	420	5.28		

teachers as more personally oriented than did boys, and intermediate grade pupils also more than primary pupils perceived teachers as personally oriented.

III. Structure Orientation. When analyzing the pupils' perception of teacher Structure Orientation or "directiveness" in communication (Table 42), it becomes evident that primary grade children regard teachers as more directive than do intermediate grade children. Looking at the scores at three different times during the year, it can be seen that the pupils gave no evidence of changing their perceptions of this particular aspect of teacher communication behavior.

IV. Affective Orientation. As suggested by the items that make up this factor, the data (Table 43) indicate that girls see their teacher as more friendly and more genuinely interested in them than boys do. There appears to be no difference in the way primary and intermediate pupils perceive this aspect of teacher behavior, nor do the pupils' perception of this aspect of teaching behavior show any significant change over time.

V. Communication Satisfaction. Upon analysis of the degree of satisfaction with teacher communication (Table 44), the discrepancy scores give evidence that girls are significantly more pleased with teacher behavior than are boys. The data show that intermediate grade pupils display more satisfaction with teacher behavior than do primary grade children. When analyzing this over the three different periods of testing, the results show no significant change. The children show the same degree of satisfaction with teacher communication behavior in September, January, and June.

Pupils' Perceptions of Classroom Peers

I. Socially Acceptable. An analysis of how the children perceived their peers as socially acceptable can be seen from Table 45. There appears to be no real difference in the way boys and girls perceive their classmates on this factor. However, when looking at the factor by grade level, it is readily apparent that intermediate grade children regard their classmates as considerably more socially acceptable than do the primary grade children. It is interesting to note from the table that the great change in perception between grade levels is accounted for by the boys' change in perception at these two grade levels. There is no evidence of significant change over the three rounds. Children see each other as acceptable in September as in June.

II. Aggressive. When considering how children regard their peers in aggressive tendencies (Table 46), it can be quickly noted that boys are seen as significantly more aggressive than are girls. Although primary grade pupils are scored as more aggressive than intermediate grade children, these scores do not approach significance. Primary grade boys, however, do have the highest aggressive scores of all, while primary grade girls have the lowest aggressive scores of

Table 42

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED TEACHER COMMUNICATION (STRUCTURE ORIENTATION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	6.06	5.75	5.68	5.81	5.85	5.83
Intermediate	5.43	5.29	4.96	5.45	5.00	5.23
Subtotals						
Boys	5.78	5.63	5.49			5.63
Girls	5.71	5.42	5.15			5.43
Total	5.74	5.52	5.32			5.53

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	12.93	2	6.47	2.581	
Grade (G)	39.12	1	39.12	15.623	.01
Sex (S)	4.48	1	4.48	1.789	
RG	1.28	2	.64	<1	
GS	6.75	1	6.75	3.700	
RS	1.26	2	.63	<1	
RGS	8.35	2	4.17	1.666	
Error	1051.50	420	2.50		

Table 43

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED TEACHER COMMUNICATION (AFFECTIVE ORIENTATION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	7.10	7.18	7.08	6.75	7.49	7.12
Intermediate	7.35	6.86	6.88	6.80	7.26	7.03
Subtotals						
Boys	6.97	6.69	6.65			6.77
Girls	7.47	7.35	7.31			7.38
Total	7.22	7.02	6.98			7.07

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	4.87	2	2.43	1.049	
Grade (G)	.93	1	.93	< 1	
Sex (S)	39.12	1	39.12	16.869	.01
RG	6.56	2	3.28	1.414	
GS	2.08	1	2.08	< 1	
RS	.56	2	.28	< 1	
RGS	1.35	2	.67	< 1	
Error	974.17	420	2.32		

Table 44

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED TEACHER COMMUNICATION (SATISFACTION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round I	Round II	Round III	Sex Boys	Sex Girls	Total
Primary	8.61	8.25	8.10	9.32	7.32	8.32
Intermediate	7.32	7.63	6.61	7.60	6.77	7.19
Subtotals						
Boys	9.04	8.46	7.89			8.46
Girls	6.89	7.42	6.82			7.04
Total	7.97	7.94	7.35			7.75

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	34.30	2	17.15	<1	
Grade (G)	138.95	1	138.95	5.59	.05
Sex (S)	218.17	1	218.17	8.78	.01
RG	14.69	2	7.34	<1	
GS	37.34	1	37.34	1.50	
RS	28.91	2	14.45	<1	
RGS	58.74	2	29.37	1.18	
Error		420	24.87		

Table 45

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED PEER REPORT
(SOCIALLY ACCEPTABLE) FOR 432 ELEMENTARY PUPILS
BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	14.44	15.72	13.94	13.66	15.75	14.70
Intermediate	19.38	18.43	17.11	20.74	15.87	18.31
Subtotals						
Boys	16.94	17.81	16.85			17.20
Girls	16.88	16.35	14.21			15.81
Total	16.91	17.08	15.53			16.51

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	208.12	2	104.06	< 1	
Grade (G)	1401.12	1	1401.12	6.83	.01
Sex (S)	208.33	1	208.33	1.02	
RG	99.12	2	49.56	< 1	
GS	1309.04	1	1309.04	6.38	.05
RS	119.10	2	59.55	< 1	
RGS	5.34	2	2.67	< 1	
Error		420	205.14		

Table 46

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED PEER REPORT (AGGRESSIVE) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round I	Round II	Round III	Sex Boys	Sex Girls	Total
Primary	7.31	7.74	7.82	10.13	5.11	7.62
Intermediate	7.46	7.11	6.81	8.06	6.19	7.13
Subtotals						
Boys	9.60	9.01	8.67			9.09
Girls	5.17	5.83	5.96			5.65
Total	7.38	7.42	7.31			7.37

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	.91	2	.45	<1	
Grade (G)	26.50	1	26.50	<1	
Sex (S)	1277.89	1	1277.89	23.13	.01
RG	25.41	2	12.70	<1	
GS	269.17	1	269.17	4.87	.05
RS	57.02	2	28.51	<1	
RGS	27.35	2	13.68	<1	
Error		420	55.26		

all. There is practically no difference when analyzing this behavior tendency over time. The degree of perceived aggressiveness simply remains constant throughout the year.

III. Withdrawn. In this factor, both boys and girls were perceived similarly (Table 47). However, when analyzing the factor as a consequence of grade level, it becomes evident from the data that intermediate children are perceived as much more withdrawn than are primary grade children. Again there is no acceptable degree of significance when analyzing this factor over time. Although reduced "withdrawn" behavior is noted, the difference is not significant.

Pupils' Perceptions of Self

I. Socially Acceptable. The thing that becomes immediately apparent on viewing the total scores for each of the three variables--sex, grade, and round--is the tremendous similarity of scores (Table 48). Boys and girls perceive themselves in like manner on this factor of "socially acceptable," as do primary and intermediate grade children. There is slight but not significant difference when analyzing these scores for the three different rounds.

II. Aggressive. From the data in Table 49, it can be seen that boys and girls see themselves as equally aggressive. Whereas in Table 48 boys were perceived by their peers as more aggressive than girls, when boys report their perception of their own behavior, they do not see themselves as any more aggressive than girls. In the case of grade level, the intermediate children see themselves as significantly more aggressive than the primary grade children. When analyzing the scores recorded for the three periods, no change is noted in children's perceptions of their own aggressive behavior.

III. Withdrawn. An analysis of the children's self-perception of withdrawn tendencies (Table 50) shows that boys and girls see themselves, as in the case of aggressiveness, as equally withdrawn. The difference between primary grade pupils' perception and intermediate grade pupils' self-perception on withdrawn behavior is, however, significant. The intermediate pupils see themselves as significantly more withdrawn than do the primary pupils. There is no change in how pupils perceive themselves on this behavior characteristic over the three testing periods.

IV. Self-Satisfaction. From an analysis of the discrepancy scores taken from two different measures and resulting in a "satisfaction index," it can be noted from Table 51 that there is no significant difference by sex, grade level, or round when pupils respond about themselves. Boys and girls are similarly satisfied with their own behavior. Primary grade children are as satisfied with their own behavior as are intermediate grade children. This degree of self-satisfaction gives no evidence of change during the school year. All three testing periods show similar scores.

Table 47

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED PEER REPORT (WITHDRAWN) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round I	Round II	Round III	Sex Boys	Sex Girls	Total
Primary	5.22	5.01	3.90	4.20	5.22	4.71
Intermediate	6.72	5.97	5.74	5.82	6.46	6.14
Subtotals						
Boys	5.65	4.68	4.71			5.01
Girls	6.29	6.31	4.93			5.84
Total	5.97	5.49	4.82			5.43

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	96.59	2	48.29	1.31	
Grade (G)	221.02	1	221.02	6.00	.05
Sex (S)	74.17	1	74.17	2.01	
RG	14.04	2	7.02	<1	
GS	3.89	1	3.89	<1	
RS	37.37	2	18.68	<1	
RGS	32.12	2	16.06	<1	
Error		420	36.81		

Table 48

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED SELF REPORT (SOCIALLY ACCEPTABLE) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	1	II	III	Boys	Girls	Total
Primary	9.63	9.56	9.00	9.14	9.65	9.39
Intermediate	9.36	9.39	9.54	9.69	9.18	9.43
Subtotals						
Boys	9.69	9.43	9.11			9.41
Girls	9.29	9.51	9.43			9.41
Total	9.49	9.47	9.27			9.41

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	4.34	2	2.17	<1	
Grade (G)	.15	1	.15	<1	
Sex (S)	.00	1	.00	<1	
RG	13.92	2	6.96	1.70	
GS	28.01	1	28.01	6.75	.01
RS	9.76	2	4.88	1.18	
RGS	3.42	2	1.71	<1	
Error		420	4.15		

Table 49

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED SELF REPORT (AGGRESSIVE) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

	Round			Sex		
Grade and Sex	I	II	III	Boys	Girls	Total
Primary	3.93	3.90	4.28	3.99	4.08	4.04
Intermediate	4.67	4.74	4.78	4.97	4.48	4.73
Subtotals						
Boys	4.38	4.33	4.74			4.48
Girls	4.22	4.31	4.32			4.28
Total	4.30	4.32	4.53			4.38

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	4.63	2	2.31	<1	
Grade (G)	51.39	1	51.39	14.68	.01
Sex (S)	4.28	1	4.28	1.22	
RG	2.12	2	1.06	<1	
GS	9.19	1	9.19	2.63	
RS	2.84	2	1.42	<1	
RGS	2.51	2	1.26	<1	
Error		420	3.50		

Table 50

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED SELF REPORT (WITHDRAWN) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round I	 II	 III	Sex Boys	 Girls	Total
Primary	4.32	4.04	4.06	4.18	4.10	4.14
Intermediate	4.71	4.88	4.90	4.73	4.93	4.83
Subtotals						
Boys	4.64	4.32	4.40			4.45
Girls	4.39	4.60	4.56			4.51
Total	4.51	4.46	4.48			4.48

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	.23	2	.11	< 1	
Grade (G)	51.39	1	51.39	15.11	.01
Sex (S)	.39	1	.39	< 1	
RG	4.89	2	2.45	< 1	
GS	1.95	1	1.95	< 1	
RS	5.48	2	2.74	< 1	
RGS	.59	2	.29	< 1	
Error		420	3.40		

Table 51

MEANS AND ANALYSIS OF VARIANCE FOR PERCEIVED SELF REPORT (SATISFACTION) FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round I	Round II	Round III	Sex Boys	Sex Girls	Total
Primary	4.72	4.68	5.57	5.16	4.82	4.99
Intermediate	5.33	5.51	5.32	5.59	5.19	5.39
Subtotals						
Boys	5.10	5.32	5.71			5.38
Girls	4.96	4.88	5.18			5.01
Total	5.03	5.10	5.44			5.19

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	14.35	2	7.18	<1	
Grade (G)	17.12	1	17.12	1.17	
Sex (S)	14.82	1	14.81	1.01	
RG	23.57	2	11.79	<1	
GS	.15	1	.15	<1	
RS	3.02	2	1.51	<1	
RGS	124.02	2	62.01	4.24	.05
Error		420	14.61		

School Attitudes

The analysis of school attitudes reported in Table 52 indicates that all three main effects resulted in significant differences. School attitudes became lower as the school year progressed as revealed through the analysis of data from Round I, to Round II, and finally to the lowest rating in Round III. Girls were reported with higher school attitudes than boys, and primary students were reported to have higher attitudes than intermediate grade students.

Summary of Results

Table 53 summarizes the significant findings in each of the perceptual fields under the major variables--sex, grade level, and observation period.

Sex

One of the things that becomes immediately evident is that boys and girls do have different perceptions of their teacher's behavior. From the findings, it would appear that girls are much more satisfied with their teacher than are boys. For the girls, the teacher seems to be doing the kinds of things and communicating in the way that more nearly approximates their perception of the ideal teacher, than for the boys. When asked for their responses about a teacher's personal relations (Affective Orientation) with students, girls indicated that teachers "make you feel as if they were your friend" to a much greater degree than did boys. Girls also saw teachers as better able to "explain things clearly" and "give you the facts about many things" (Academic Orientation) or "ask how you think and feel about things" (Personal Orientation) than did boys.

In the area of perception of peers, the significant finding is that boys are looked upon as more aggressive than are girls (this is not necessarily physical aggression). Boys' perceptions of themselves denied this aggressiveness, but when responding about other boys and when inviting girls' responses about boys, they are definitely seen as more aggressive than girls. Boys and girls are seen as similarly socially acceptable and as having comparable withdrawn tendencies when rating each other.

When one considers perception of self, there appears to be no significant difference in the way boys and girls perceive themselves as to social acceptability, aggressiveness, or withdrawn behavior. The scores would simply indicate that boys and girls respond in similar manner when reacting to items about "having lots of friends," "losing their temper," and "not playing with other children."

Boys' school attitudes were definitely lower than were those reported for girls. This parallels the differences between boys' and

Table 52

MEANS AND ANALYSIS OF VARIANCE FOR SCHOOL ATTITUDE SCORES FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Grade and Sex	Round			Sex		Total
	I	II	III	Boys	Girls	
Primary	53.96	48.51	44.33	42.45	55.42	48.94
Intermediate	48.81	41.90	42.39	35.39	53.34	44.37
Subtotals						
Boys	41.90	53.18	49.10			38.92
Girls	60.86	37.24	37.63			54.38
Total	51.38	45.21	43.36			46.65

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Round (R)	5081.26	2	2540.63	3.994	.05
Grade (G)	2255.02	2	2255.02	3.547	.05
Sex (S)	25807.69	1	25807.69	40.581	.01
RG	410.38	2	205.19	<1	
GS	1021.51	2	510.76	<1	
RS	672.50	1	672.50	1.058	
RGS	675.34	2	337.67	<1	
Error	267108.53	420	635.97		

Table 53

SIGNIFICANT MAIN EFFECTS REPORTED IN SUMMARY OF ANALYSES OF VARIANCE PROBLEMS FOR 432 ELEMENTARY PUPILS BY SEX, GRADE, AND ROUND

Perceptual Referents	Variables		
	Sex	Grade	Round
Teacher Communication			
I. Academic Orientation	G > B		
II. Personal Orientation	G > B	I > P	
III. Structural Orientation		P > I	
IV. Affective Orientation	G > B		
V. Satisfaction	G > B	I > P	
Peers			
I. Socially Acceptable		I > P	
II. Aggressive	B > G		
III. Withdrawn		I > P	
Self			
I. Socially Acceptable			
II. Aggressive		I > P	
III. Withdrawn		I > P	
IV. Satisfaction			
School			
I. School Attitude	G > B	P > I	1 > 2 > 3

girls' perceptions of and satisfaction with their teachers. Following the findings reported concerning their perceptions of their teachers' communication, this difference in school attitude should be anticipated.

Grade Level

From a look at summary Table 53 there appears to be strong evidence that upper elementary grade children have quite different perceptions about teachers, peers, self, and school than do lower elementary grade children. Evidence supports the notion that the intermediate grade children are more satisfied with the type teacher communication they receive than are primary grade children. When looking at the four factors comprising this teacher communication behavior, the two that reveal significant differences are Personal and Structural Orientation. Primary grade children see their teachers as "more telling" and "less soliciting" than do intermediate grade children. Intermediate children more than primary children report their teachers as Personally Oriented.

When responding about each other, the intermediate grade children describe their peers as more socially acceptable than do lower grade children. However, it is interesting to note that these same upper grade children regard their peer group as more withdrawn than do the younger children. Thus, when the intermediate age children have regarded their peers as more socially acceptable, they have likewise regarded them as more withdrawn.

When the children were asked to respond about themselves, the differences demonstrated that fourth, fifth, and sixth grade children saw themselves as both more aggressive and more withdrawn than did the lower grade children see themselves. This is an interesting notion -- that the older children perceived themselves as more "bossy" as well as more "shy" than their younger counterparts. There was no significant difference in the way each group perceived its own social acceptability. They felt equally accepted.

Notwithstanding the reported difference in teacher satisfaction which was higher for intermediate pupils, school attitudes of primary pupils were higher than attitudes of intermediate grade pupils.

Observation Period

Perhaps one of the most revealing facts in summary Table 53 is in the lack of change in any of these perceptual fields except school attitude. Over a year's period, the children's perceptions about teacher, peers, and self simply did not change. They were asked to express feelings about these areas in September, January, and May. What they said in September held constant for the remainder of the year with the single exception of school attitudes.

BIBLIOGRAPHY

Bower, Eli M. "Primary Prevention in a School Setting." Prevention of Mental Disorders in Children (Gerald Caplan, ed.). New York: Basic Books, 1961.

Combs, Arthur W. and Donald Snygg. Individual Behavior: A Perceptual Approach to Behavior. New York: Harper & Bros., 1959.

Hart, F. W. Teachers and Teaching. New York: Macmillan, 1934.

Havighurst, R. J. and others. "A Community Youth Development Program." Supplementary Education Monographs, 1952, No. 75, 59.

Hirschberg, J. C. "The Role of Education in the Treatment of Emotionally Disturbed Children Through Planned Ego Development." American Journal of Orthopsychiatry, 23: 684, 1953.

Lewis, W. W. "The Construct Validation of a Reputation Test." Unpublished Doctoral dissertation, Division of Human Development and Guidance, George Peabody College for Teachers, 1959.

Mitchell, J. V. "The Factor Analysis of a 'Guess-Who' Questionnaire Designed to Identify Significant Behavior Patterns in Children." Journal of Personality, 1956, 24, 376-386.

Morse, W. C. "A Research Evaluation of an Action Approach to School Mental Health." American Journal of Orthopsychiatry, 31, No. 2, 1961.

Rabinovitch, Ralph D. "Reading and Learning Disabilities." American Handbook of Psychiatry (Solvano Arieti, ed.). New York: Basic Books, 1959.

Rogers, Carl R. Client-Centered Therapy. Boston: Houghton Mifflin Company, 1951.

CHAPTER X

SUMMARY AND IMPLICATIONS

by

M. Vere DeVault, Dan W. Andersen, John Withall,
and Eleanore Larson

Mental Health and Communication

The Wisconsin Teacher Education Research Project study aimed at identifying the kind of teacher education program and student teaching experiences that would enable teachers to enhance the personal social development of the learners as well as to maximize the learning of their pupils. To this end the Wisconsin Project focused upon precise observation and measurement of one aspect of the teaching-learning operation, i.e., communication, in order to delimit the area of investigation sharply.

The teacher spends a great deal of her time explaining things to the learners, talking to them, showing them pictures and objects, and conducting demonstrations, all with the apparent objective of getting them to understand whatever it is she is doing and talking about. She assesses their understanding by asking questions, assigning and supervising the accomplishments of tasks, and evaluating the completion of these tasks. The learners alternately listen, answer questions, and perform the tasks in order to demonstrate or improve their understanding of whatever is being taught. This oversimplified way of talking about what we see going on in the classroom casts the teacher in the role of a purveyor of information and attitudes designated as necessary for the assimilation of children into the adult culture. The role of the learners is to understand and make use of what the teacher is presenting. At other times the roles are reversed, as children relate personal experiences or the meanings they construe from events, the teacher listens and asks questions to try to understand better what they are saying. The alternate roles of givers and receivers of information to describe what happens in a classroom is a simple, straightforward approach. Yet it contains within it the seed of an idea that may prove useful in dealing with the more subtle nuances of human relations.

Communication, as used here, implies that two or more persons are in contact with each other while one tries to "get his point across" by sounds, gestures, or writing, and the others try to "understand what he means." Communication may be about either internal, private states of feeling, beliefs, and attitudes, or about the environment, or both. Two important assumptions were included in this definition of communication: a) The continuous flow of experiences to which every individual is subjected is not inherently structured or meaningful, but is given structure and meaning by the person who experiences it; b) beliefs are constantly being tested by the feedback an individual receives from the events in which he is a participant.*

The terms, "sending-oriented" and "receiving-oriented" are used to describe the role an individual assumes when he is engaged in communication behaviors. A "sending" orientation is directed towards letting others know how the sender construes reality. By "receiving-oriented" is meant a frame or reference in which the dominant intent is to grasp another's ideas. Such an orientation is directed toward trying to understand how another person construes reality.

The ways by which an individual implements these constructs are seen in observable behaviors which provide the basis for an observational instrument. Two major types of behavior can be dealt with by this model. We can make statements about the process of the communication act, while other measures may be obtained dealing with the outcome of such acts. (see Chapter 7, "Explorations in Pupil Communication.")

Purpose and Design of the Study

The principle objective of this study was the investigation of the impact of teacher behavior upon the mental health of children in the classroom. With this as the primary concern, three related questions were asked which influenced the design of the research. These questions were: (1) What is the influence of different instructional approaches in a teacher-training program upon the perceptions and verbal communication behavior of student teachers? (2) What kinds of communication behavior did the teacher-subjects reveal at the beginning of the study, and what changes occurred in this behavior during the period of the study? and (3) What perceptions and patterns of teacher communication behavior, if any, have a measurable influence upon mental health of pupils in the classroom?

The broad design delineated the investigation of three sets of variables and their interrelationships. The first variable, different instructional approaches, was considered an independent variable; the intervening variable was conceptualized as the communication behavior and perceptions of the teacher-subjects, since any effects of the instruction at the university level would have to be transmitted through the teacher-subjects to the pupils in their classrooms and would presumably be affected both by the underlying perceptions and by the communication behavior of these teachers; and the dependent variable was the attitudes and perceptions of the pupil-subjects in the elementary classroom.

---

* The entire staff of the Teacher Education Research Project contributed to these formulations to a lesser or greater extent. However, W. W. Lewis is to be credited with collating and formulating our material in these particular terms.

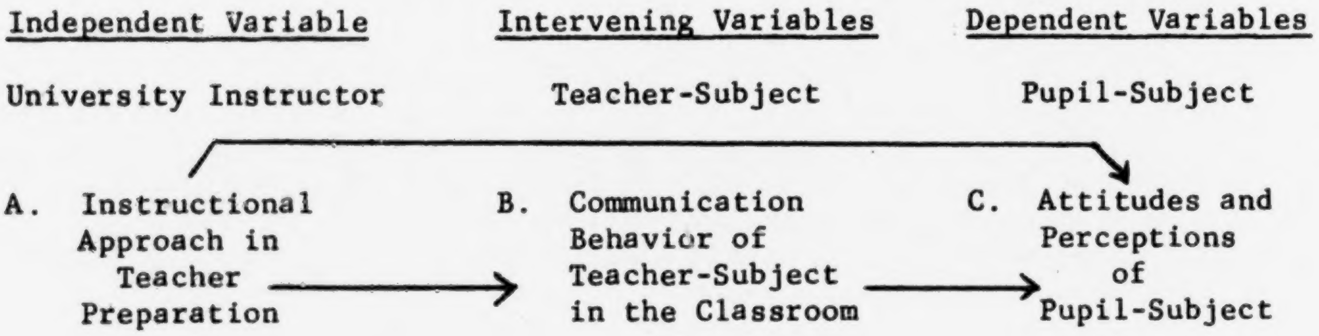
The independent variable was an experimental variable: three different instructional approaches were employed in two required courses in the elementary teacher education program at the University of Wisconsin -- Education 73, "The Child: His Nature and Needs," and Education 75, "The Nature and Direction of Learning." Approach I, the "concept-centered" approach, focused on the development and understanding of principles and concepts derived from the subject matter of these two courses. Approach II, the "case study" approach, considers the subject matter of Education 73 and Education 75 from the point of view of its relationship to and impact on the learning and development of the child as a unique individual; this approach emphasized the use of case studies of children. Approach III, the "learner-centered" approach, characterized by freedom of expression and self-selected learning, aimed at developing better self-understanding on the part of the students enrolled in these two education courses. These instructional approaches have been studied by analysis of the communication pattern of the instructor during the class sessions, using a 14 category observation system.

The teacher-subjects whose communication behavior comprised the intervening variables have been studied as they progressed from students in the university to full-time teachers in elementary classrooms.

In thinking of these subjects as potential transmitters of any influence experienced at the university level, it was clear that we needed to study in some systematic way their behavior in the classroom, both during their practice teaching and full-time teaching, since only through their interaction with their pupils would they transmit any effects. Although it is possible to observe and study behavior in many different ways, the verbal communication behavior of the teacher was selected as representing a major part of the significant interaction of teachers with their pupils. Tape recordings were therefore made of lessons conducted by the teacher-subjects in elementary school classrooms. These records, supplemented by live observation by trained observers, were also studied through the 14 category systems, and several other trial systems (see Chapters 4, 5, 6, 7).

In studying the dependent variable -- the attitudes and perceptions of the pupil-subjects in the elementary classroom -- two aspects of the individual's functioning were selected. One was the way in which the individual sees himself, and was defined operationally in terms of his self-concept and his ideal-self. The other was the way in which the individual perceives the interpersonal classroom environment, measured by the child's perceptions of his peers, his teacher, and his learning experiences. The classroom climates created by the teacher-subjects were assumed to be one indicator of the mental health which they encouraged or discouraged in their pupils. A battery of instruments designed to assess self-concept, perception of peers, perception of teacher communication and general attitudes toward school was administered to the pupil-subjects to assess teacher effects by class groups on these mental health indicators.

This over-all design is summarized in the following diagram:


Independent Variable
Intervening Variables
Dependent Variables
University Instructor
Teacher-Subject
Pupil-Subject
A. Instructional Approach in Teacher Preparation
B. Communication Behavior of Teacher-Subject in the Classroom
C. Attitudes and Perceptions of Pupil-Subject

Population of the Study

The research subjects for this study consisted of those individuals enrolled in the Education 73 - Education 75 sequence in the Fall-Spring semesters, 1960-61. The subjects were randomly assigned to one of three sections of Education 73, which had as its main concern the study of child growth and development. The same grouping was maintained for Education 75, where the emphasis was on human learning. The population consisted of 61 at the junior level, 51 at the senior level, and 36 on whom data were also obtained in the first year of full-time teaching.

The teacher-subject population was concentrated in and around Madison during their undergraduate and student teaching experience. Upon graduation and employment, however, the population extended across the United States to include subjects teaching in Colorado, Ohio, California, and other states.

Summary of Conclusions

On the first research question, "What is the influence of different instructional approaches in a teacher-training program upon the perceptions and verbal communication behavior of student teachers?", only modest differences were found in the observed behaviors of the teachers consistently exposed to one of three different instructional approaches. Our hypothesis, on this question, was not supported or substantiated.

Why were the behavioral differences between teachers exposed to Approach I compared with Approach II or Approach III not greater? The communication patterns of the three professors, each employing a different teaching approach, were found to have differed in several respects. The student teachers, however, who were exposed to these different patterns of behavior did not adopt and use similar behaviors to any significant extent.

This lack of adoption or adaptation can be attributed to many factors. One factor that may have affected the results is the length of exposure the student teachers had to the teaching approaches. They had had many hours of exposure to other teaching behaviors and communication styles over the preceding sixteen years. This exposure must have helped them to develop an image of teaching and a model of communication style that would suit and be congenial to them. On the other hand, being exposed to a particular communication style for three hours a week for a year was not sufficient to make the kind of impact necessary to enable teachers to either consciously or unconsciously emulate this style.

Another factor which may have had an effect was the nature of the subject matter. The professors in this study were teaching classes in human development and educational psychology. The teachers were dealing with social studies or science. To adopt or emulate the communication behaviors of a professor, the student teacher would have to reinterpret and transfer these to a different subject matter at a different educational level. If, as seems reasonable, teachers adopt or mimic the teaching procedures of elementary or secondary teachers to whom they have been exposed, it appears that this may inhibit to some extent the transfer to an elementary classroom situation of the types of behaviors used by the professors in this study.

A third factor of crucial importance is the fact that the criterion measure in the study was changes in communication behavior on the part of the student teachers over a span of three years. This is a rigorous criterion for any learning situation.

Following are additional questions and conclusions summarized in the context of the first research question.

Did instructional approaches at the college level differ in ways which might be anticipated from the stated goals and theoretical frames of reference as enunciated by proponents of the respective approaches? Was the general classroom behavior of the instructors, including the establishment of the nature of class meetings, the nature of instruction, the role of the instructor, and the general nature of course content congruent with the expressed goals and theoretical frames of reference of the proponents of each approach?

The three university instructors did actualize the central foci of their respective approaches through their general classroom behavior. The concept-centered instructor did rely upon the presentation of concepts he deemed crucial to the content area of knowledge with which he dealt from session to session of the class. The case study approach instructor did utilize many case studies as he worked to clarify the meaning of growth and function in childhood and their implications for the learning process. The learner-centered approach instructor did concentrate upon relationships with his class which allowed and encouraged students to pursue their own interests and goals.

In the same vein, were the communication behaviors of the instructors congruent with the expressed goals and theoretical frames of reference of the proponents of each approach?

The communication behavior of the university instructors, each using a different instructional approach, was differentiated to a large extent as hypothesized from the instructors' stated goals and frames of reference.

The concept-centered approach and the case study approach instructor utilized a total of about 50 per cent of the time in giving information and in giving analysis and only 27 and 13 per cent, respectively, to listening; whereas the learner-centered approach instructor utilized approximately 56 per cent of the time in listening and only 15 per cent in giving information and in giving analysis combined. The concept approach instructor gave directions more than either of the other approaches; the case study approach instructor gave information and analysis more than either of the other two approaches.

The second major question, concerned with the nature of the classroom communication behavior of students during their undergraduate experience and their first year as beginning teachers, prompted the following conclusions.

Dimensions of teacher communication were less consistent when data were obtained via observational systems of categorization than when they were obtained via perceptions of pupils. Nonetheless, utilizing these two different systems, three dimensions resulted regularly enough to indicate that teacher communication behavior may be analyzed in terms of structure, content, and personal orientations of teachers.

Apparently, the structure dimension of teacher behavior is represented by the extent to which the teacher directly manages the instructional activities in the classroom. Teachers high on this dimension tell children what to do, give information, give directions, and give suggestions more than teachers who are low on the academic or content dimension seem to be those who ask questions, give information and listen to pupils respond to teachers' questions and discussion. The teacher who rates high on the personally-oriented scale relates the content of the lesson to her own or to her students' personal experiences, and shares with her pupils how she thinks and feels about a variety of things either related or unrelated to lesson topics.

During the three-year period from the time students first worked with elementary pupils as a part of their laboratory experience through their first year as beginning teachers, the communication analyses reveal that the subjects of the study gradually asked for less information, gave more information and decreased their expression of both positive and negative feelings as they developed their teaching skills and styles.

The third research question dealt with the major dimensions of teacher communication related to the school adjustment of elementary school pupils.

The personal dimension of teachers' communication was the only dimension consistently related to various measures of school adjustment. Favorable attitudes about school, self, and social acceptance, were positively related to a high personal dimension of teacher communication. Negatively related to the personal dimension of teachers' communication were pupils' self-concepts as aggressive and as withdrawn. The structure dimension was apparently related less to school attitudes and more to concepts of self, positively with social acceptability and negatively with aggression and withdrawn tendencies. The academic dimension was positively related to school attitudes and was generally unrelated to concepts of self.

Related subsidiary questions asked, how pupils' perceptions of self, teachers, peers, and school differed by sex and by grade?

Pupils' perceptions of teachers, of school, and of peers differed by sex, although perceptions of self did not. Boys perceived teachers as less personally and affectively oriented and less academically oriented than did girls. That is, boys regarded teachers as less interested in them personally as well as less capable of giving clear and factual information than did girls. Boys were reported by their peers to be more aggressive than were girls, and girls reported more favorable school attitudes than boys. Intermediate pupils thought of themselves as more aggressive and as having more withdrawn tendencies than did primary pupils. They were seen by their peers and both more socially acceptable and more withdrawn than primary pupils. Intermediate grade pupils were more satisfied with their teachers and they perceived their teachers as less structurally-oriented than did primary pupils.

Implications

The present study, aimed at an exploration of the relationships of teacher communication behavior upon the mental health of school children, provides numerous insights into problems of classroom instruction, teacher education, and additional research. Notwithstanding the limitations of any study of this type, this section of the report is designed to draw implications from both the personal experience of the researchers while the project was in process and from the statistical results of the study.

There are those who will question the judiciousness of ranging as broadly as the authors do in their search for meaningful insights from the present study. Still others will wish that less timidity had been used in the exploration of implications for education in the classroom, in teacher education programs, and in further research. It seems reasonable to expect that if curriculum development in our schools is to proceed upon generally acceptable premises, the interplay of ideas gleaned from research and from experience need to be maximized. Too often those persons gleaning ideas from research and those gleaning ideas from experience are not adequately communicating with each other.

Here, the authors present implications designed to reflect their findings from both research and experience.

Implications for Classroom Teachers

There seems to be clear evidence that the nature of the affective domain of the classroom is in part a product of the teacher's communication behavior.

Assuming that positive school attitudes and positive self-concepts are among the primary goals of instruction or, at least, are prerequisite to the cognitive goals of instruction, several implications can be drawn. Apparently, various groups of pupils in our schools are affected differently by a given instructor or instructional approach. Ideally, it might be expected that children could be placed with teachers according to their particular cognitive and affective needs. This will happen only when much more is known about both the needs of specific learners and the contributions to be made by specific personalities and teaching styles of teachers. Until that time, it seems reasonable to expect that some gains might be made by placing learners with a variety of teachers. Thus, a given pupil has an opportunity to identify among various teachers the one who most nearly fulfills his ideals and his needs. This might well be one of the major advantages of some of the team teaching, non-graded, or departmentalized teacher-specialization innovations currently underway in many elementary schools.

Approaching this problem in another way, one might assume that with the rather minimal information we currently possess, we have enough to begin grouping pupils according to certain kinds of affective needs. Grouping by sex might be one. Various perceptions of self might represent another.

The results of the present study repeatedly point up the relationship of the personal dimension of teacher communication behavior to the development of desirable concepts of self and of school attitudes in pupils. A teacher high on this dimension gives of his personal self and relates instructional tasks to the personal lives of his students. Apparently teachers need to be made increasingly aware of the impact which this personal element in teaching has on the learner.

The effectiveness of the pupil perception instrument in comparison with the observational scales as measures of verbal communication seems to imply the greater use of the former should be made. The simplicity of designing an instrument which would provide the classroom teacher with an optimum amount of information and the ease with which this information can be collected, analyzed, and interpreted should make it a technique used by all teachers interested in understanding the impact of their instructional procedures on the learners in their classes.

Implications for Teacher Education

The present study is hardly needed as a source of data to prompt the conclusion that clearer statements of the objectives of teacher education programs are needed. Is the professional education sequence designed to provide information about the educational enterprise? Is it designed to provide the student with skills, tools, and techniques needed in day-to-day classroom instructional procedure? Is it designed to enhance the student's understandings of himself and others? Or, is it a combination of all three kinds of objectives that gives direction to the planning of teacher education programs? Apparently, there is some evidence that the three instructional approaches utilized in this study do make certain kinds of differential contributions. These were not measurable in terms of patterns of teacher communication but they did result in differences in the teacher-subjects' awareness of the classroom emotional climate. The extent to which this is one of the objectives of a teacher education program is the extent to which experiences which provide meaning for emotional awareness should be included in teacher education programs.

Apparently it is possible for a teacher to prepare himself to teach using a specific approach and maintaining congruence between his goals of instruction or theoretical frames of reference and his communication behavior. Perhaps, in-service and pre-service teacher education programs should provide resources and experiences whereby the teacher develops a particular instructional style or approach. Systems of analysis of teaching behavior could be utilized to inform the individual about his teaching approach and to provide information upon which he might base attempts to make specific changes in his behavior.

Since it seems possible that the nature of classroom communication behavior can be analyzed in terms of dimensions of structure, content, and personal orientations of teachers, attention should be given in teacher education programs to methods for measuring this communication and for analyzing the results. These techniques, which provide means by which teachers can better understand themselves, need to be developed as a part of the technical repertory of each teacher. The use of such techniques throughout the teacher education experience should provide assistance to the prospective teacher as he fashions his own classroom style and as he continues to develop himself as a teacher.

This study gives some evidence that personality plays an important role in the classroom behavior of teachers and in their impact on learners. The selection of teachers on the basis of personality criteria may be as important to the development of certain mental health constructs in the classroom as is the instructional approach used in a teacher education program. More attention needs to be given to the use of personality measures in the selection of teacher education candidates and in the recommendations for specific career assignments of these candidates.

Implications for Research

The present study is only one of many which have pointed up the sex differences in elementary school pupils' achievement, perceptions, aspirations, and needs. The boys perceived teachers as exhibiting different kinds of communication behavior than did the girls. Was this the result of different perceptions of the same behavior, or do teachers, indeed, employ a different mode of communication with the boys in their classes than with the girls? How is the perception of teacher communication related to learning problems of boys in the early elementary school grades? Is it possible for teachers who are made aware of the difference in boys' perceptions of their communication to make appropriate adjustments so that the girls' perceptions will remain constant while at the same time the boys' perceptions will change?

Research into the possibilities for the individualization of teacher education programs seems to be implied from two sets of results of the present study. First, additional information is needed which will make it possible to assign prospective teachers to specific teacher education programs which are most likely to result in their optimum personality development. Much more information is needed than we now have about students' perceptions of their university instructors and the variation in impact which emerges from the instructional style of a single instructor.

Individualization is further implied in the varying perceptions of children according to age and sex. The desirability of differentiated selection and preparation programs to maximize teacher differences as they are prepared for teaching assignments with specific sets of learners should be explored.

The data reported indicate that pupils' perception of teacher communication behavior was valid. The consistency of the factors over a period of three observations provides some indication of construct validity. Such construct validity for the observed teacher communication data was lower for both the fourteen category and the extended category systems. Neither of the observational systems resulted in as much consistency of factors over time as did the pupil perception instruments. In addition, the data reporting relationships between the two observational systems and pupil perception instruments resulted in fewer significant and less consistent relationships. Thus, concurrent validity might be considered lower for the observational systems than it was for the pupil perception data reported here. If the pupil perception data are more valid and more reliable than the observation method of reporting teacher communication, we need to know more about the feasibility of utilizing interaction analysis techniques in attempts to describe teachers' communication behavior in the classroom. Certainly it is easier to collect data from pupils than to train observers and then to record data during a series of observations in a classroom. In addition, the problem of sampling the teacher's behavior is lessened in that it can be expected that pupils report their perceptions of the teacher as a continuing influence in their classroom experience. When using outside observers no one including the teacher, is ever quite sure how much of his behavior at the time of the observation is like his regular classroom manner. Bale's original category system was used to report the interaction of small groups in relatively short time periods.* Certainly there were fewer reasons for securing this kind of information from the participants than there are for securing it from pupils in a classroom. Could it be that interaction analysis techniques are less appropriate for classroom use than would seem to be indicated by the rather large number of investigations currently underway in this field? Perhaps more time should be spent developing instruments with which a variety of aspects of teacher communication could be described by pupils in the classroom. Is it possible that the best source of knowledge about what a teacher does, is the learner himself?

The teacher perceives his role in the classroom primarily as a social one. He is concerned with the impact he has on a group. The learner, on the other hand, views his participation in the classroom in a personal or individual manner. More attention has been given to the problem of helping the learner understand his role as a member of a group than has been given to the problem of helping the teacher understand his role in the personal relationship expectation of each learner. Research is needed which will provide insight into how teachers in preparation and in service may be helped to appreciate this individual-personal role expectation.

Are there developmental stages through which individuals move as they become teachers? There was evidence in this study of some slight impact by the institution on the affective awareness of students and also evidence of a change in communication patterns as pre-service and first-year experience passed. The trend in the communication pattern seemed to be toward the cognitive aspects of teaching and away from the affective which had been emphasized in the teacher education program.

---

*Bales, R.F., Interaction Process Analysis: A Method for the Study of Small Groups (Cambridge, Mass.: Addison-Wesley, 1950)

This lack of consistent communication behavior throughout the observation periods as measured by the instruments may suggest that the student was open for, but not seeking from the institution, ideas about methodology, technique, content, and mental health. As the student became more involved in teacher behaviors, in the context of his first full-time teaching position, his concern was focused on other matters than mental health. The value which the institution or the instructor expressed regarding teacher roles, (e.g. that mental health of the individual is an important aspect of teaching), appears to have been internalized by the students to a minimal degree. A further follow-up of these teachers to determine when they establish a consistent behavioral pattern and what seems to be the greatest influence on this pattern might establish the existence of a third stage -- internalization of values regarding teaching -- resulting in a series of stages which include compliance at the university level, identification at the early classroom teaching level, and finally, internalization at the level when the teacher's experience has been extensive enough to provide security for his own personal adjustment.

APPENDIX A

CHILD REPORT: TEACHER COMMUNICATION SCALE (ACTUAL)

Instructions: Will you please put a mark in the space that tells best what kind of a teacher you have.

		YES	yes	no	NO
1. Some teachers give you the facts about many things.	Is my teacher like this?				
2. Some teachers ask lots of questions about things in school.	Is my teacher like this?				
3. Some teachers suggest different things so you can choose for yourself.	Is my teacher like this?				
4. Some teachers are too busy to notice when you need help.	Is my teacher like this?				
5. Some teachers ask you how you think things should be done.	Is my teacher like this?				
6. Some teachers tell you exactly what to do.	Is my teacher like this?				
7. Some teachers make you feel as if they don't like you.	Is my teacher like this?				
8. Some teachers ask you how you think and feel about things.	Is my teacher like this?				

Appendix A

		YES	yes	no	NO
9. Some teachers let you know how they feel and think about things.	Is my teacher like this?				
10. Some teachers listen to you when you want to tell them something.	Is my teacher like this?				
11. Some teachers can explain things clearly.	Is my teacher like this?				
12. Some teachers make you feel as if they were your friend.	Is my teacher like this?				

Appendix A

CHILD REPORT: TEACHER COMMUNICATION SCALE (IDEAL)

Instructions: Will you please put a mark in the space that tells best what kind of a teacher you would like to have.

		YES	yes	no	NO
1. Some teachers give you the facts about many things.	Would I like a teacher like this?				
2. Some teachers ask lots of questions about things in school.	Would I like a teacher like this?				
3. Some teachers suggest different things so you can choose for yourself.	Would I like a teacher like this?				
4. Some teachers are too busy to notice when you need help.	Would I like a teacher like this?				
5. Some teachers ask you how you think things should be done.	Would I like a teacher like this?				
6. Some teachers tell you exactly what to do.	Would I like a teacher like this?				
7. Some teachers make you feel as if they don't like you.	Would I like a teacher like this?				
8. Some teachers ask you how you think and feel about things.	Would I like a teacher like this?				

Appendix A

		YES	yes	no	NO
9. Some teachers let you know how they feel and think about things.	Would I like a teacher like this?				
10. Some teachers listen to you when you want to tell them something.	Would I like a teacher like this?				
11. Some teacners can explain things clearly.	Would I like a teacher like this?				
12. Some teachers make you feel as if they were your friend.	Would I like a teacher like this?				

APPENDIX B

CHILD REPORT: PEER BEHAVIOR CHARACTERISTICS SCALE

Instructions: After reading the sentence, please put the number of the boys and girls in the boxes that you think belong there.

---

1. Which children are good at starting games and getting things going, the ones that think of interesting things to do?

2. Which children quarrel and argue a lot?

3. Who are the boys and girls that are too shy to make friends easily?

4. Which ones are good at games; they play them better than most children?

5. Which children are bossy; they always try to run things their own way?

Appendix B

---

6. Which children are bashful, and don't like to recite in class?

7. Which are the ones that everybody likes; they have a lot of friends?

8. Which children get mad the easiest, and lose their tempers?

9. Who are the boys and girls that stay out of games; they don't play much with the other children?

APPENDIX C

CHILD REPORT: CHILDREN'S BEHAVIOR CHARACTERISTICS SCALE (ACTUAL)

		YES	yes	no	NO
1. Some children are good at starting games and getting things going. They think of interesting things to do.	Am I like this?				
2. Some children quarrel and argue a lot.	Am I like this?				
3. Some boys and girls are too shy to make friends easily.	Am I like this?				
4. Some children are good at games. They play them better than most children.	Am I like this?				
5. Some children are bossy. They always try to run things their own way.	Am I like this?				
6. Some children are bashful and don't like to recite in class.	Am I like this?				
7. There are some children that everybody likes. They have a lot of friends.	Am I like this?				

Appendix C

		YES	yes	no	NO
8. Some children get mad easily, and lose their tempers.	Am I like this?				
9. Some boys and girls stay out of games, and don't play much with other children.	Am I like this?				

Appendix C

CHILD REPORT: CHILDREN'S BEHAVIOR CHARACTERISTICS SCALE (IDEAL)

		YES	yes	no	NO
1. Some children are good at starting games and getting things going. They think of interesting things to do.	Do I want to be like this?				
2. Some children quarrel and argue a lot.	Do I want to be like this?				
3. Some boys and girls are too shy to make friends easily.	Do I want to be like this?				
4. Some children are good at games. They play them better than most children.	Do I want to be like this?				
5. Some children are bossy. They always try to run things their own way.	Do I want to be like this?				
6. Some children are bashful and don't like to recite in class.	Do I want to be like this?				
7. There are some children that everybody likes. They have a lot of friends.	Do I want to be like this?				

Appendix C

		YES	yes	no	NO
8. Some children get mad easily, and lose their tempers.	Do I want to be like this?				
9. Some boys and girls stay out of games, and don't play much with other children.	Do I want to be like this?				

APPENDIX D

CHILD REPORT: SCHOOL ATTITUDE SCALE

Instructions: Will you please put a mark in the space that tells best how you feel.

		YES	yes	no	NO
1. I enjoy most of the things I do in school.	Do you feel like this?				
2. I don't like some of the things we study in school.	Do you feel like this?				
3. I like to work hard in school.	Do you feel like this?				
4. I would like to move to another classroom if I could.	Do you feel like this?				
5. It is fun to learn the things we study in school.	Do you feel like this?				
6. I am glad to be in this class.	Do you feel like this?				
7. Sometimes I feel like staying away from school.	Do you feel like this?				
8. Everything we do in school is interesting to me.	Do you feel like this?				

Appendix D

		YES	yes	no	NO
9. I think school is a waste of time.	Do you feel like this?				
10. Learning is just a lot of hard work	Do you feel like this?				
11. I don't like all the hard work we have in school.	Do you feel like this?				
12. Learning new things is a lot like a game.	Do you feel like this?				

APPENDIX E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 1 (ASKS FOR INFORMATION) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	16.89	14.16	20.90	14.88	15.93	14.61	16.23
Case Study	20.61	18.96	13.32	14.60	13.11	12.57	15.53
Learner-Centered	17.48	18.17	14.30	12.96	10.22	12.01	14.19
Total	18.33	17.10	16.17	14.15	13.09	13.06	15.32

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	141.75	2	70.87	1.12	- - -
Observation (O)	805.39	5	161.08	2.55	.05
A x O	710.09	10	71.01	1.12	- - -
Error	11368.50	180	63.16		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 2 (SEEKS OR ACCEPTS DIRECTION) SCORES BY THIRTY-THREE TEACHERS

	Observation Period						
Approach	Junior Year		Senior Year		First Year Teaching		Total
	a	b	a	b	a	b	
Concept-Centered	.74	1.80	3.86	3.18	2.59	1.71	2.31
Case Study	.26	6.56	4.28	1.84	3.14	4.75	3.47
Learner-Centered	1.34	1.85	3.29	1.99	3.19	3.15	2.47
Total	.78	3.40	3.81	2.34	2.97	3.20	2.75

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	52.00	2	26.00	3.13	.05
Observation (O)	193.55	5	38.71	4.65	.01
A x O	189.21	10	18.92	2.27	.05
Error	1497.08	180	8.32		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 3 (ASKS FOR OPINION FOR ANALYSIS) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	6.05	8.20	6.33	6.79	3.75	1.64	5.46
Case Study	7.28	8.61	9.39	5.29	5.78	2.61	6.49
Learner-Centered	5.94	10.66	8.38	8.18	5.55	3.36	7.01
Total	6.42	9.16	8.03	6.76	5.02	2.53	6.32

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	82.56	2	41.28	1.38	- - -
Observation (O)	897.74	5	179.55	6.02	.01
A x O	111.30	10	11.13	0.37	- - -
Error	5366.02	180	29.81		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 4 (LISTENS) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	25.06	16.08	17.99	21.64	29.99	37.93	24.78
Case Study	21.19	19.66	22.97	23.46	32.39	28.34	24.67
Learner-Centered	20.51	26.54	22.79	26.15	27.33	23.87	24.53
Total	22.26	20.76	21.25	23.75	29.90	30.05	24.66

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	2.09	2	1.05	0.00	- - -
Observation (O)	2967.96	5	593.59	3.22	.01
A x O	2316.24	10	231.62	1.25	- - -
Error	33231.28	180	184.62		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 5(GIVES INFORMATION) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	17.68	18.46	24.05	22.72	26.02	22.40	21.89
Case Study	22.22	11.24	16.78	21.97	20.09	28.56	20.14
Learner-Centered	19.31	13.13	22.60	17.27	24.62	30.62	21.26
Total	19.74	14.28	21.14	20.66	23.58	27.19	21.10

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	103.12	2	51.56	0.50	- - -
Observation (O)	3031.33	5	606.27	5.82	.01
A x O	1452.42	10	145.24	1.39	- - -
Error	18744.90	180	104.14		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 6 (GIVES SUGGESTIONS) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	.56	.69	1.09	1.29	.24	3.62	1.25
Case Study	.29	1.20	1.26	.41	.33	.59	.68
Learner-Centered	.05	1.96	.46	.45	.67	.64	.70
Total	.30	1.28	.94	.72	.41	1.62	.88

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	13.69	2	6.85	0.99	- - -
Observation (O)	42.49	5	8.50	1.23	- - -
A x O	73.53	10	7.35	1.06	- - -
Error	1245.29	180	6.92		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 7 (GIVES DIRECTIONS) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	12.57	18.90	9.75	13.06	12.28	11.29	12.97
Case Study	7.86	16.68	12.36	10.11	13.66	10.73	11.90
Learner-Centered	12.96	9.34	14.10	15.88	12.43	12.25	12.82
Total	11.13	14.97	12.07	13.02	12.79	11.42	12.57

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	44.54	2	22.27	0.32	- - -
Observation (O)	318.87	5	63.77	0.91	- - -
A x Q	998.24	10	99.82	1.42	- - -
Error	12636.78	180	70.20		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 8 (GIVES OPINION) SCORES BY THIRTY-THREE TEACHERS

Approach	Junior Year a	Junior Year b	Senior Year a	Senior Year b	First Year Teacning a	First Year Teacning b	Total
Concept-Centered	1.22	2.69	2.85	3.50	1.55	1.70	2.25
Case Study	1.09	2.33	3.14	3.00	1.29	1.62	2.08
Learner-Centered	1.86	2.26	2.72	2.22	2.56	2.48	2.35
Total	1.39	2.43	2.90	2.91	1.80	1.93	2.23

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	2.49	2	1.24	0.28	- - -
Observation (O)	63.67	5	12.73	2.84	.05
A x O	27.38	10	2.74	0.61	- - -
Error	807.19	180	4.48		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 9 (GIVES ANALYSIS) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	2.87	3.50	2.16	2.25	1.47	1.24	2.25
Case Study	5.40	3.67	4.26	5.64	1.58	1.26	3.64
Learner-Centered	3.87	4.34	3.03	4.30	.96	1.76	3.04
Total	4.05	3.84	3.15	4.06	1.34	1.42	2.98

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	64.02	2	32.01	1.89	- - -
Observation (O)	270.97	5	54.19	3.19	.01
A x O	69.10	10	6.91	0.41	- - -
Error	3054.80	180	16.97		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 10 (SHOWS POSITIVE FEELING) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	2.85	1.63	.83	.92	.39	1.91	1.42
Case Study	2.42	2.42	2.62	1.98	.46	1.18	1.85
Learner-Centered	3.76	2.89	1.60	2.13	.90	1.44	2.12
Total	3.01	2.31	1.68	1.68	.58	1.51	1.80

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	16.42	2	8.21	2.99	- - -
Observation (O)	109.63	5	21.93	7.97	.01
A x O	34.97	10	3.50	1.27	- - -
Error	495.76	180	2.75		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 11 (INHIBITS COMMUNICATION) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	.41	.00	.52	.96	.12	.06	.35
Case Study	.45	.00	.05	.09	.17	.06	.14
Learner-Centered	.67	.21	.40	.37	.23	.10	.33
Total	.51	.07	.32	.48	.17	.07	.27

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	1.82	2	.91	1.57	- - -
Observation (O)	6.29	5	1.26	2.17	- - -
A x O	4.72	10	.47	0.81	- - -
Error	104.30	180	.58		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 12 (SHOWS NEGATIVE FEELING) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	2.06	1.49	.68	.40	.06	.28	.83
Case Study	1.10	.79	1.48	.21	.40	.73	.79
Learner-Centered	2.30	.61	.36	.44	.60	.39	.78
Total	1.82	.96	.84	.35	.36	.47	.80

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Squares	F	P
Approach (A)	.09	2	.04	.01	- - -
Observation (O)	52.10	5	10.42	3.66	.01
A x O	23.96	10	2.40	0.84	- - -
Error	513.06	180	2.85		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 13 (NO COMMUNICATION) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	7.71	7.77	3.96	4.13	3.75	2.95	5.04
Case Study	5.48	4.05	4.60	7.35	4.16	4.69	5.05
Learner-Centered	7.68	2.82	3.96	3.48	6.96	2.78	4.61
Total	6.96	4.88	4.17	4.99	4.95	3.47	4.90

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Squares	F	P
Approach (A)	8.30	2	4.15	0.10	- - -
Observation (O)	224.73	5	44.95	1.13	- - -
A x O	363.12	10	36.31	0.91	- - -
Error	7188.76	180	39.94		

Appendix E

MEANS AND ANALYSIS OF VARIANCE FOR PROPORTION OF USE OF CATEGORY 14 (PERFUNCTORY AGREEMENT OR DISAGREEMENT) SCORES BY THIRTY-THREE TEACHERS

Approach	Observation Period						Total
	Junior Year		Senior Year		First Year Teaching		
	a	b	a	b	a	b	
Concept-Centered	3.31	4.55	4.55	2.86	.29	.14	2.62
Case Study	4.46	3.36	3.17	1.99	.55	.15	2.28
Learner-Centered	2.22	4.84	2.16	3.97	.92	.06	2.36
Total	3.33	4.25	3.29	2.94	.59	.11	2.42

ANALYSIS OF VARIANCE

Variables	Sum of Squares	df	Mean Square	F	P
Approach (A)	4.10	2	2.05	2.02	- - -
Observation (O)	458.90	5	91.78	9.09	.01
A x O	92.41	10	9.24	0.91	- - -
Error	1818.22	180	10.10		

APPENDIX F

DETAILED DESCRIPTION OF CATEGORIES USED IN DESCRIPTION OF PUPIL-TEACHER INTERACTION*

General Instructions

A record from consisting of paired columns is used, the first column being used to record the pupil verbalization, and the second for the teacher response.

In contrast to the two other methods of analyzing verbal communication of the teacher (one in terms of 5-second intervals, and the other in terms of a "communication unit"), this method is an analysis of occurrences, regardless of the length of time each one takes. During the categorization of the tape-recording (or of the actual classroom interaction), the categorizer records the category which describes the kind of verbalization expressed by each pupil. If a pupil's verbalization represents several categories (as, for example, if he first gives a direct answer to a question posed by the teacher and then goes on to give an elaborative explanation in his own words), both categories are indicated on the same line of the record sheet. The teacher's response (or responses, if more than one category is represented) is indicated on the same line in the teacher's column. In tabulating and counting, however, only one category is counted for a single occurrence of a pupil verbalization; since we were particularly interested in the dimension of "relative independence," the category which indicated greater "independence" was counted. If the teacher responded in a way which would lead to more than one categorization, the progression indicated in the category list (from 1 through 12) was referred to and the category higher on the list was used.

Essentially, then, we have a system by which pupil verbalizations in the classroom may be described--not in as great detail as possible, but as a single occurrence (in terms of the most "independent" part of the verbalization, if several categories are represented), and by which the teacher response to the pupil may be described also as a single occurrence.

The detailed descriptions follow. Each item is numbered in the same way as in the list in Chapter 7, to facilitate use with it.

---

*Prepared by Patricia W. Cautley

Appendix F

Categories of Pupil Verbalization

Answers to teacher's questions:

1. Factual answer to a question, either objectively or academically verifiable, with no evidence that the pupil has added anything to the statement of fact (A).

   Examples of types of questions eliciting answers in this category are the following: Where is South Dakota on this map? How do you spell ------? Is this your book? Who has seen the Statue of Liberty?

2. Factual answer to a question, given by pupil before anyone is called on by teacher, described as spontaneous answers (SA).

   This category is identical to #1 except for one detail: the absence of recognition by the teacher. It was added when we found that in lower grades, in particular, a teacher often waits after posing a question (possibly to see whose hands go up, etc.) before calling on one pupil to give the answer. If a pupil calls out the answer, he may elicit a negative reaction on the part of the teacher. Since this negative response is to be counted, it was very important to identify the aspect of the answer which aroused it; in this case, it was the pupil's "jumping the gun" so to speak, not the content of the answer itself.

3. Reading aloud at request of teacher (R). In the rare instances when a pupil spontaneously reads aloud, as when making a point in a discussion, such a pupil verbalization would be counted as a spontaneous comment.

4. Explanation of factual material in own words, or elaboration of academic material (EA).

   This category includes a wide variety of pupil verbalizations, all giving evidence of the pupil's own choice of words. For example, at one extreme would be the response to the teacher's request for a definition; if the pupil is clearly repeating something from memory, this would be counted in category #1 above (A), but if the pupil is expressing in his own words at least part of the definition, his verbalization would be counted in this category. Often the inflection, the hesitation, and other cues are useful in making this decision. At the other extreme is the pupil's explanation, completely in his own words, of some academic or related topic given in response to a question raised by the teacher.

A volunteered answer, invited by a general question asked by the teacher (such as "Who would like to tell us why this (an event in history, an observed outcome of a demonstration of magnetism, and so on) happened?") would be placed in this category. It is basically an answer to a question raised by the teacher; she structures the kind of information she wants the pupil to give.

An improvement in the over-all categorization system would be to divide this category further as it is the most frequently used and includes a wide range of different degrees of "independence" in the pupils' verbalizations.

5. Expression of personal preference, or description of a personal experience. (EP).

Responses included in this category are also elicited by the teacher's question, and include expressions of personal preference or a description of personal experience.

Examples would be: "I don t like that definition." "I think this is a better way to do things." "I felt terrible when that happened." "That was a real thrill to see the mountains."

Occasionally a question may come up regarding a statement of academic material which is expressed as a guess or as an opinion, such as "I think this is what happens." If the subject matter is academic, such an explanation would go into category #4. However, if a preference or a personal feeling is expressed, category #5 is used.

6. Questions invited by teacher, or other responses invited within a general structure (T).

The teacher may express this in a variety of ways ("What are some of the questions you would like to be able to answer?" "Can you suggest some of the books we might want to look into?").

Even though the questions (or ideas) subsequently expressed by pupils may represent some fairly original thinking on their part, and considerable "independence" as far as the content is concerned these questions are expressed in answer to the teacher's invitation and consequently must be separated from completely spontaneous questions (which are asked without any invitation from the teacher).

Appendix F

7. Giving reports (D) is a separate category. It is not difficult to identify this behavior.

Spontaneous verbalizations (not invited or requested by teacher): 8 & 9. Spontaneous questions (Q) and Spontaneous comments (S).

These are questions asked by the pupils or comments made by the pupils with no verbal encouragement or request from the teacher. The pupil may or may not be verbally recognized by the teacher (as in "Yes, Johnny?"), and it is not always possible to determine from a tape recording whether she may have given non-verbal recognition (as in a nod of the head).

The questions may be of any kind: requests for information about the work of the moment, request for clarification regarding an assignment, request for information, etc., and the comments may be of any kind: statements of fact, opinion, personal preference, either related or unrelated to the subject under discussion. Originally we attempted to separate several different kinds of spontaneous questions and comments, but found it impossible if the tape recording could not be completely understood.

In classroom observation, or in analyzing tape recordings which record clearly all pupil verbalizations, several kinds of improvements or refinements could be made relative to these categories:

(a) A distinction based on the teacher's recognition of the pupil making the statement (or asking the question) could be important. For example, the significant correlation coefficient which we found between the occurrence of spontaneous questions or comments and the teacher's devaluing response may be related to this single aspect of spontaneous verbalizations. Unfortunately, it is not possible to determine from tape recordings alone whether a teacher has recognized a pupil before he speaks, as this may be done by non-verbal cues, but it would seem valuable to record this from classroom observation.

(b) Spontaneous verbalizations related to the subject under discussion might be categorized separately from those which are totally unrelated. We would hypothesize that a difference in the teacher's response to them might be found if this dimension were specified.

Appendix F

Categories of Teacher Responses to Pupil Verbalizations

1. No response (N).

   The only problem in regard to this category arises when the classroom discussion or interchange is proceeding at a rapid pace so that some pupils follow others in verbalizing, and there is no occasion or point in the teacher's responding to one pupil's verbalization. We developed a category for this sequence: a pupil verbalization following another pupil. Generally this second pupil's verbalization would be categorized as "spontaneous," but there were instances in which several pupils would be giving different answers to one question which the teacher had asked. Each one would then be categorized as either #1, 2, or 4 above.

   In general, "no response" was counted only if there was a time pause in which a teacher response could conceivably be made or if the teacher "had the floor." A sharper definition of the situation leading to this category would be desirable.

2. Perfunctory response (P).

   Both the perfunctory content and the lack of inflection in the teacher's voice were utilized in this category. For example, even a value-laden word such as "good," if said with no inflection, and followed immediately by other verbalization, could be categorized as "perfunctory," even though in another situation the same response, uttered with expression, could be categorized as a "valuing" response. To be categorized as perfunctory, a response necessarily must be brief and uttered without expression. The most common examples are "all right," "thank you," and "O.K."

3. Repetition of part or all of what the pupil has said (R).

   There is no difficulty in identifying this category.

4. Confirming or denying accuracy of content of pupil verbalization with no feeling tone indicated (C or D).

   The focus in this category is on the accuracy of the content of the pupil's verbalization, and the teacher is responding to this dimension. Occasionally a teacher confirms the accuracy of part of what the pupil says, and denies the accuracy of another part; such a response is recorded as CD.

   If any feeling tone is expressed by the teacher, as in an enthusiastic "That's right, Johnny!", the response is categorized as #10 below (Valuing); if a negative tone is expressed, as in "That's completely wrong!, it would be categorized as #11. Relatively little difficulty was encountered in determining the distinction between these categories, however.

Appendix F

5. Giving direct answer to pupil or elaborated answer (explanation) (A).

   There is no difficulty in identifying this category. These answers are given in response to a request from a pupil.

6. Referring what pupil has said to a later time (L).

   In this response the teacher indicates that the content of the pupil verbalization will be the topic of a later class discussion. Also included in this category were the teacher's turning a pupil's question back to him to answer. If, however, the teacher asked a pupil's question of other pupils, this response was placed in the category "Use" which was later combined with #10.

7. Giving directions to pupil (Dir).

   There was no difficulty in using this category.

8. Asking an elaborative question (EQ).

   This is a question which requests an elaboration or further explanation of some aspect of the content under discussion, and may be asked of the same pupil who has verbalized or of another pupil. The only difficulty in regard to this category is judging whether the question was actually a response to the pupil's verbalization or not; this is impossible to determine in some instances, but this category is used if the question is related to content mentioned by the pupil.

   A question asking a pupil to clarify something he has said would be categorized here; asking a pupil to repeat what he said would not.

9. Making an elaborative comment (ER).

   The judgments involved in the use of this category are similar to those listed for EQ above. If the teacher's comment is related to the content mentioned by the pupil, it is categorized here; if her comment is unrelated, it is not counted as a response to the pupil (a "no response" would be used).

10. Indicating a valuing response, or expression of positive effect (EV).

    All statements made with intent to praise, to encourage, or to express positive feeling toward a pupil are included in this category. Both tone of voice and words used may indicate such affect. There is no difficulty in distinguishing between this category and perfunctory response (P), in which no inflection is used, and relatively little difficulty in distinguishing between this and confirming accuracy of the pupil's response. Simple confirmation of accuracy, with no affect indicated by inflection, would be categorized as in #4.

Appendix F

A considerable range of responses are included in this category, however, ranging from "mild" valuing and encouragement to "enthusiastic" valuing, as we did not find it possible to distinguish reliably between these varieties.

11. Indicating a devaluing response, or expression of negative affect (ED).

All statements made with intent to scold, disapprove, or to express negative feeling toward a pupil are included in this category. Simple denial of accuracy of a response would be categorized in #4, however.

12. Miscellaneous responses (M).

Responses made by the teacher which do not fit into any of the other categories would be placed here.

APPENDIX G

Project Associates and Research Assistants*

John Antes
Terry CoBabe
Richard P. Cook
Jacqueline Damgaard
Raymond Garcia
Beldin Hare
Regina Hart
Brian Heath
Carol M. Hofheinz
Jerry Don Hubbar
Kenneth P. Kosier
Rosemary Kozlowsk
Carolyn B. Laing
Bahman Mehri
Donald M. Miller
Barbara E. Moely
Bernard Pyron
Susan Reiter
Robert C. Remstad
Herbert Wenger

Secretarial Staff

Joan Joyce
Elizabeth Klein

---

* Does not include staff mentioned in the preface or as authors of chapters in the report.

APPENDIX H

WISCONSIN TEACHER EDUCATION RESEARCH PROJECT PAPERS*

John M. Newell, W. W. Lewis and John Withall, "Mental Health-Teacher Education Research Project Research Outline" (Madison: University of Wisconsin, January 1960) (Mimeographed).

W. W. Lewis, John Withall and John M. Newell, "A Description of Two Instructional Approaches" (Madison: University of Wisconsin School of Education, October 1960) (Mimeographed).

Kaye Sizer Thomas, W. W. Lewis, and John M. Newell, "An Attempt to Quantify the Abstraction Ladder Concept" (Madison: University of Wisconsin, November 1960) (Mimeographed).

M. Brewster Smith, "'Mental Health' Reconsidered" (Paper read at the Work Conference on Mental Health-Teacher Education Research Projects, Madison, Wisconsin, November 10-13, 1960).

Ronald Lippitt, M. Brewster Smith, Ralph Ojemann, Hildegard Peplau, Erich Lindemann, and Nicholas Hobbs (Remarks delivered at the Work Conference on Mental Health-Teacher Education Research Projects, Madison, Wisconsin, November 10-13, 1960).

John Withall, "Overview of Mental Health-Teacher Education Research Project" (Madison: University of Wisconsin School of Education, December 1960) (Mimeographed).

John M. Newell, W. W. Lewis and John Withall, "Use of a Communication Model to Study Classroom Interactions" (Madison: University of Wisconsin, February 1961) (Mimeographed).

John Withall, John M. Newell, and W. W. Lewis, "Development of Classroom Observational Categories Within a Communication Model" (Madison: University of Wisconsin School of Education, August 1961) (Mimeographed).

John Withall, "Progress Report on Project No. 2M-6624 Submitted to the National Institute of Mental Health" (Madison: University of Wisconsin School of Education, August, 1961) (Mimeographed).

W. W. Lewis and John M. Newell, "Analysis of Classroom Interaction Through Communication Behaviors" (Madison: University of Wisconsin School of Education, September, 1961) (Mimeographed).

* Listed chronologically

APPENDIX H

John M. Newell, "Experimental Verification of Three Instructional Approaches" (Madison: University of Wisconsin School of Education, September, 1961) (Mimeographed).

W. W. Lewis, John M. Newell, and John Withall, "An Analysis of Classroom Patterns of Communication," *Psychological Reports*, 211-219, October, 1961.

John Withall, "Report on Mental Health-Teacher Education Research Project of the University of Wisconsin" (Paper presented at the Regional Meeting of the University Council for Educational Administration, Chicago, Illinois, November 1, 1961).

John Withall, John M. Newell, and W. W. Lewis, "Pupil-Teacher Interactions as Communication Process" (Paper presented at the American School Health Association's Research Council Meeting, Detroit, Michigan, November 12, 1961).

Carl R. Rogers, Thomas A. Ringness, and John W. M. Rothney, "Report on Three Teaching Approaches: (Transcript of remarks made before Project staff at Madison, Wisconsin, November, 1961).

John Withall, "Trends in Observing and Recording Classroom Interaction" (Paper presented at a meeting of the National Society of College Teachers of Education, Chicago, Illinois, February, 1962).

W. W. Lewis, John M. Newell, and John Withall, "Experimental Demonstration of Differences in Instructional Methods" (Madison: University of Wisconsin School of Education, February, 1962) (Mimeographed).

John Withall, Morey Appell, and John M. Newell, "Student-Teachers' Concepts for Describing Their Most Esteemed and Most Disliked Teacher" (Madison: University of Wisconsin School of Education, February, 1962) (Mimeographed).

Richard Paul Cook, Susan Reiter, and Terry CoBabe, "Results of Classroom Observational Categories Within a Communication Model" (Part I) (Madison: University of Wisconsin, July, 1962) (Mimeographed).

Barbara E. Moely, Richard Paul Cook, "Differences in the Degrees of Satisfaction Perceived by Elementary Education Majors, Through an Extended Experience with One of Three Differently Oriented Teaching Approaches" (Part I) (Madison: University of Wisconsin School of Education, July, 1962) (Mimeographed).

APPENDIX H

Michael E. Bohleber, "A Summary of Instructors' Statements of Values and Objectives and Students' Value Statements" (Madison: University of Wisconsin, July, 1962) (Mimeographed).

John Withall, "Progress Report Submitted to the National Institute of Mental Health on Project No. 2M-6624 (Madison: University of Wisconsin School of Education, July, 1962) (Mimeographed).

Richard Paul Cook and Terry CoBabe, "Results of Classroom Observational Categories Within a Communication Model" (Part II) (Madison: University of Wisconsin, August, 1962) (Mimeographed).

John Withall, "Mental Health-Teacher Education Project," Journal of Teacher Education, September, 1963.

M. Vere DeVault, Dan W. Andersen, Patricia Cautley, and Dorothy Sawin, "The Teacher Education Research Project at the University of Wisconsin" (Madison: University of Wisconsin School of Education, 1963) (Mimeographed).

M. Vere DeVault, Dan W. Andersen, Patricia W. Cautley, and Dorothy W. Sawin, "Teacher Education Research Project at the University of Wisconsin" (Paper read at a joint meeting of the American Association of Colleges of Teacher Education and the American Educational Research Association, Chicago, Illinois, February 15, 1963).

Dan W. Andersen (Ed.), "The Wisconsin Teacher Education Research Project: Design and Instrumentation" (Madison: University of Wisconsin, December, 1963) (Mimeographed).

M. Vere DeVault, Dan Andersen, Dorothy Sawin, and Patricia Cautley, "Teacher Education and the Study of Teacher Classroom Behavior," Theory Into Practice 3:21-25, February, 1964.

John Antes, Dan W. Andersen, and M. Vere DeVault, "Pupils' Perceptions of Teachers." Psychology in the Schools, February, 1965.

George S. C. Cheong and M. Vere DeVault, "Pupils' Perceptions of Teachers," The Journal of Educational Research, 59:446-9, July-August, 1966.

Kenneth P. Kosier and M. Vere DeVault, "Effects of Teacher Personality on Pupil Personality," Psychology in the Schools 4:40-44; January, 1967.

Frank B. May and M. Vere DeVault, "Hypothetical Dimensions of Teachers' Communication." American Educational Research Journal 4:271-278; May, 1967.

APPENDIX H

M. Vere DeVault, Dan W. Andersen, and Eleanore Larson, "An Exploratory Study of the Impact of Teacher Communication on Mental Health in the Classroom," Chapter VIII, Mental Health and Teacher Education, 46th Yearbook, The Association for Student Teaching, Dubuque, Iowa, 188-216, 1967.

Kenneth P. Kosier and M. Vere DeVault, "Differential Aspects of Three College Instructional Approaches on Personality Traits of Beginning Elementary Teachers," Journal of Experimental Education 35:19-27; Summer, 1967.

Dan W. Andersen and M. Vere DeVault, "Preservice Education and the Developing Teacher," Educational Leadership 25:149-152; November, 1967.